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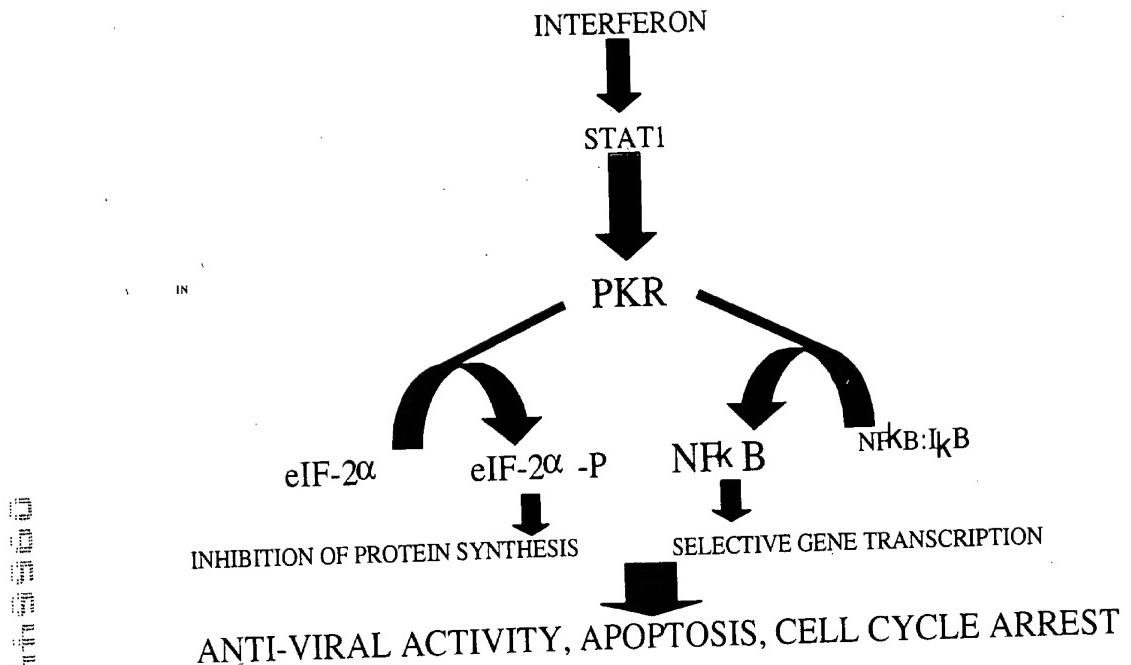


FIGURE 1

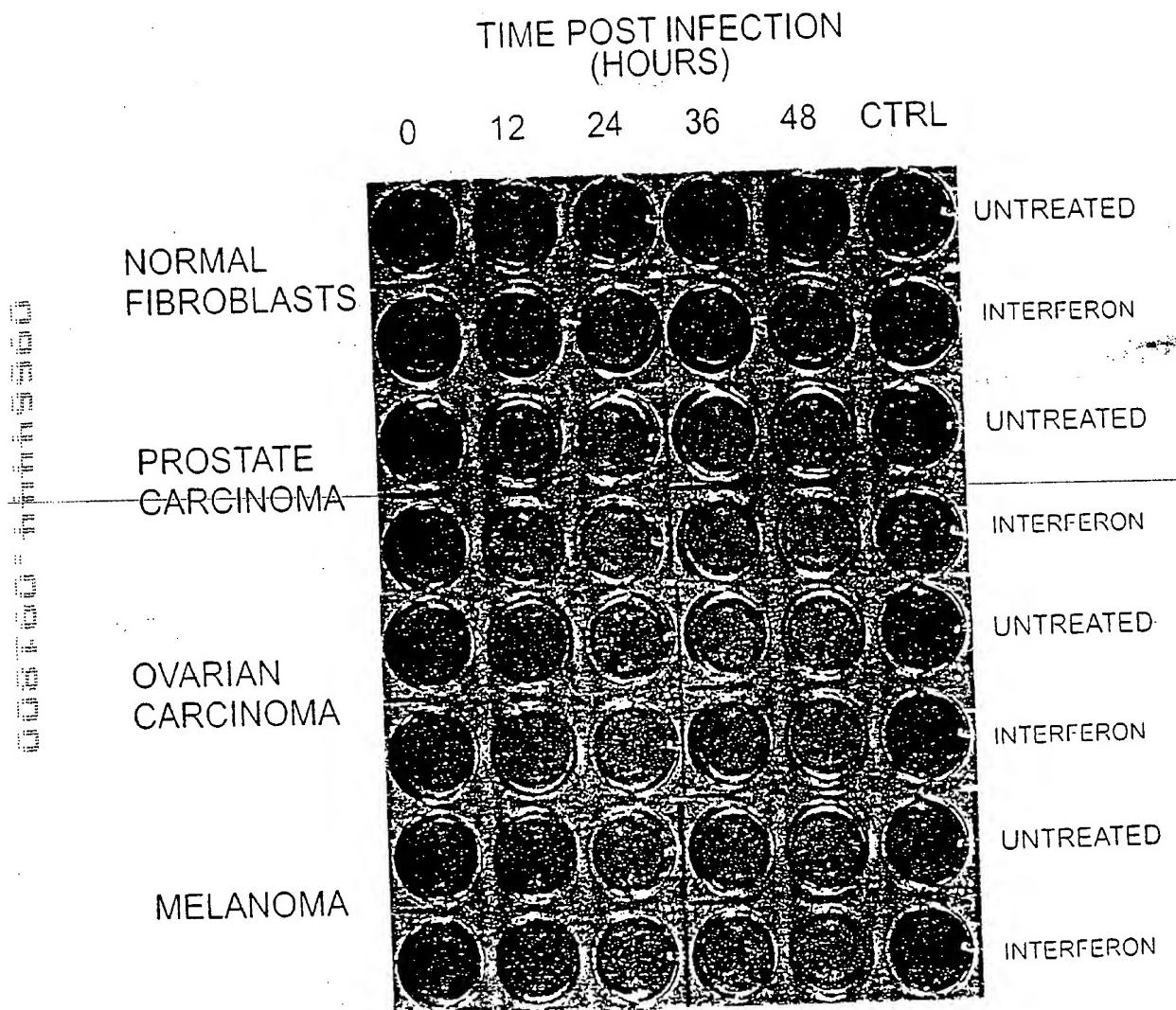
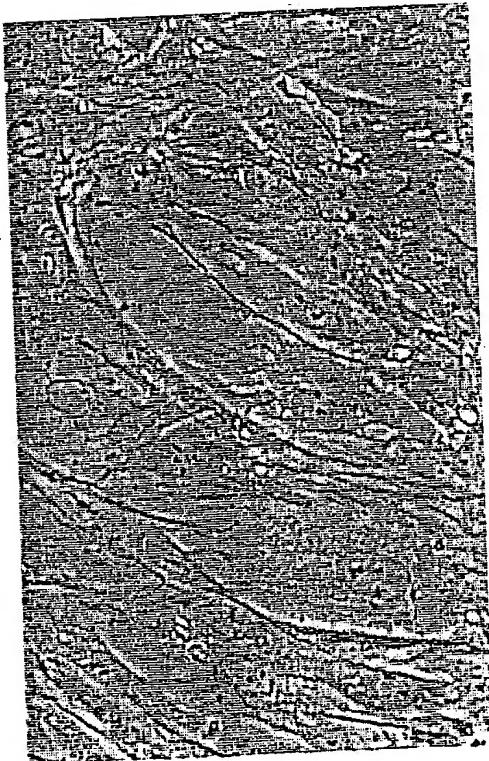
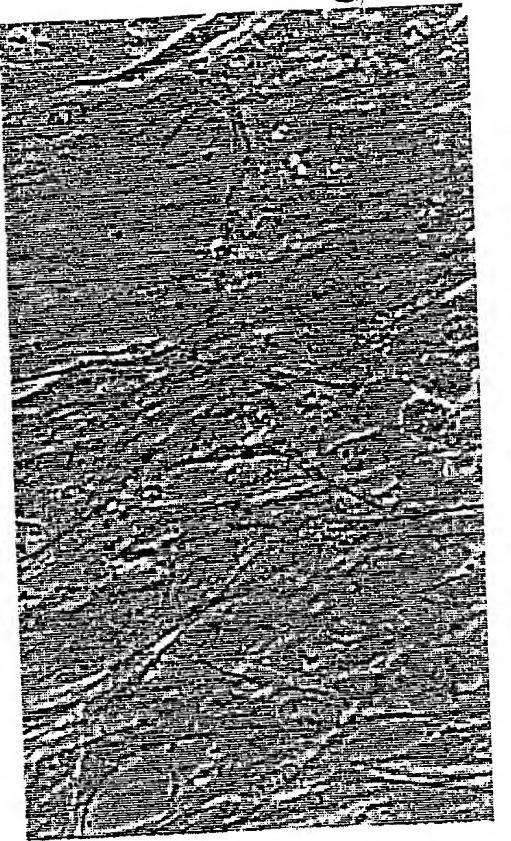


FIGURE 2

VSV INFECTION OF
NORMAL HUMAN
FIBROBLASTS



VSV MOI 1 PFU/18
HOURS
MOCK INFECTED

FIGURE 3A

VSV INFECTION OF
OVCAR433

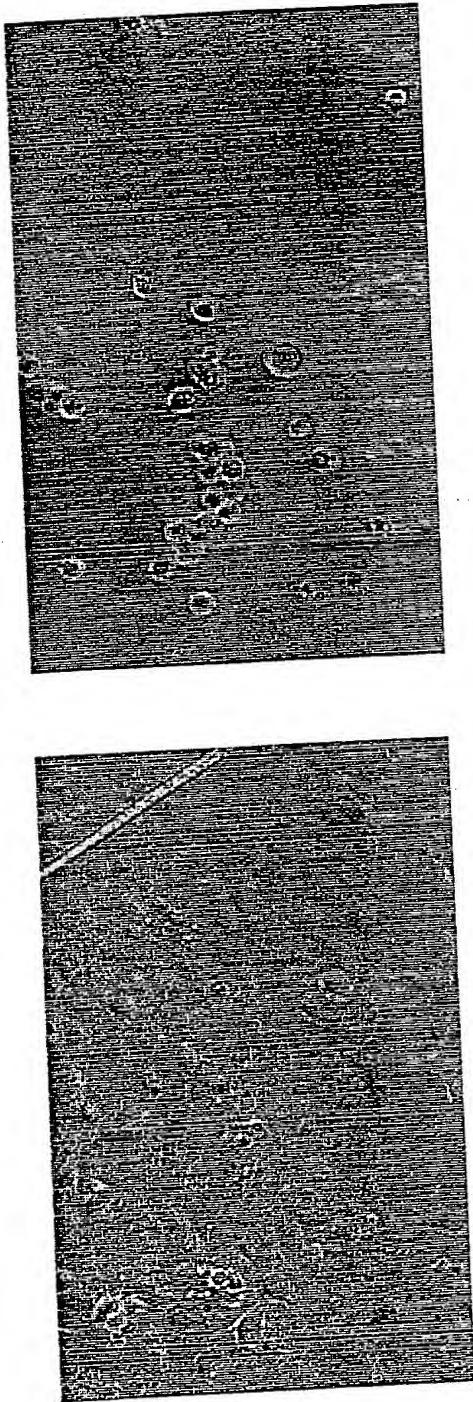
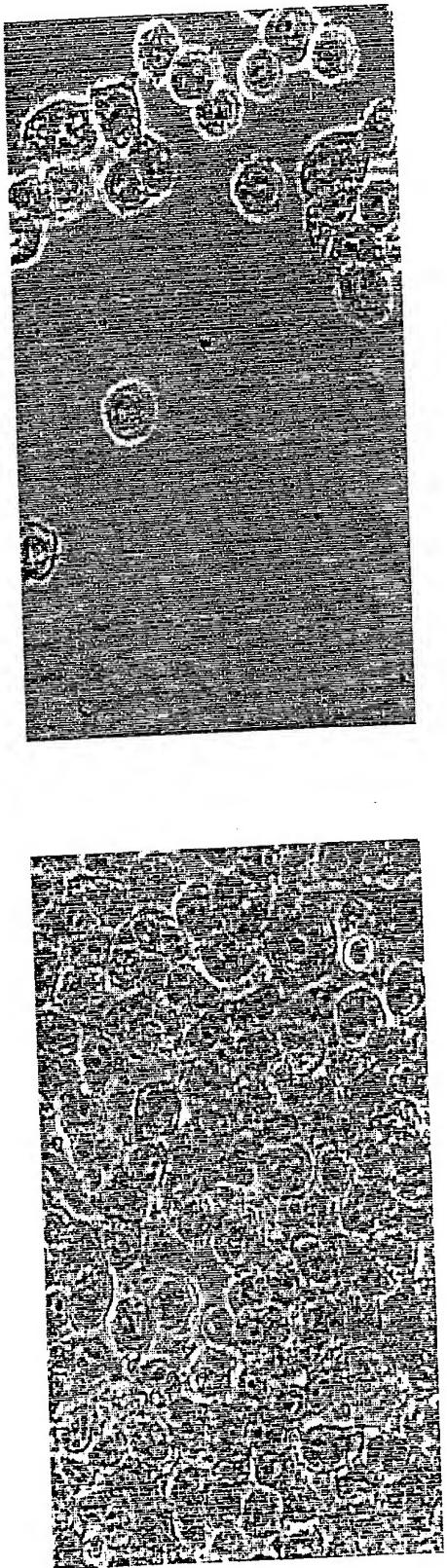


FIGURE 3B

VSV 0.1PFU/18 HRS
MOCK INFECTED

VSV INFECTION OF KB
CELLS



VSV moi 1 PFU/18HRS
MOCK INFECTED

FIGURE 3C

FIGURE 4. Cytokinesis

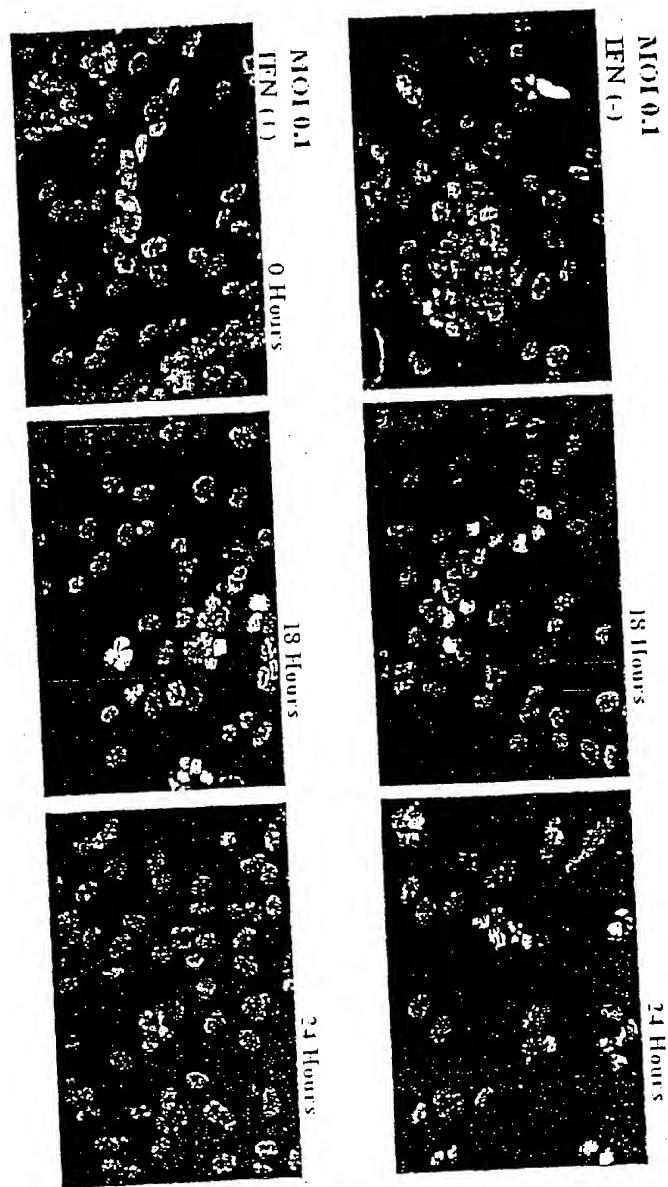


FIGURE 4

கலை கல்வி = தொழில் கலை

Nude Mouse Tumours

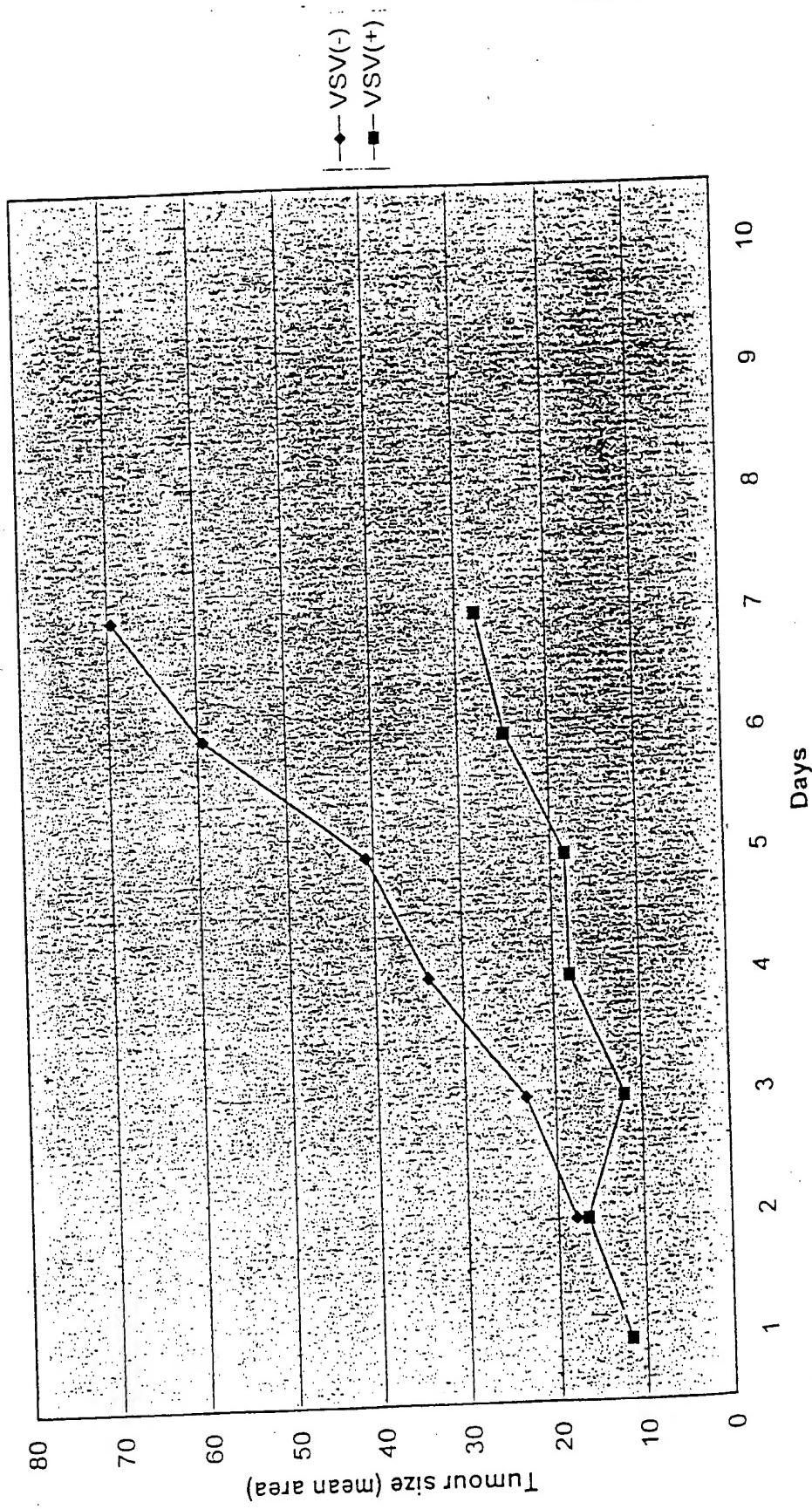


FIGURE 5



FIGURE 6

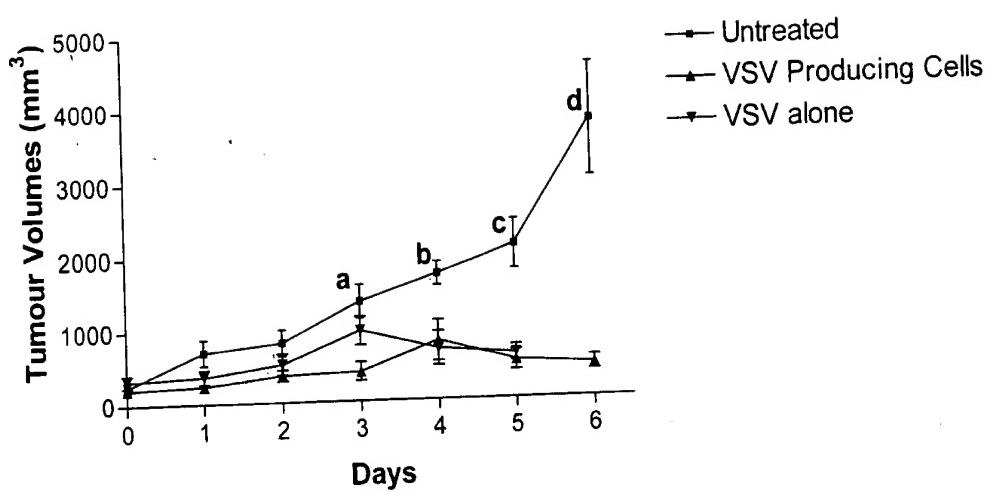
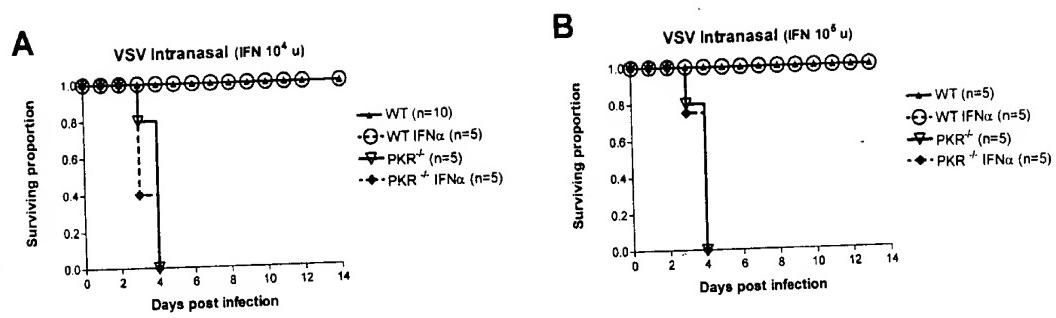


FIGURE 7



FIGURES 8A AND 8B

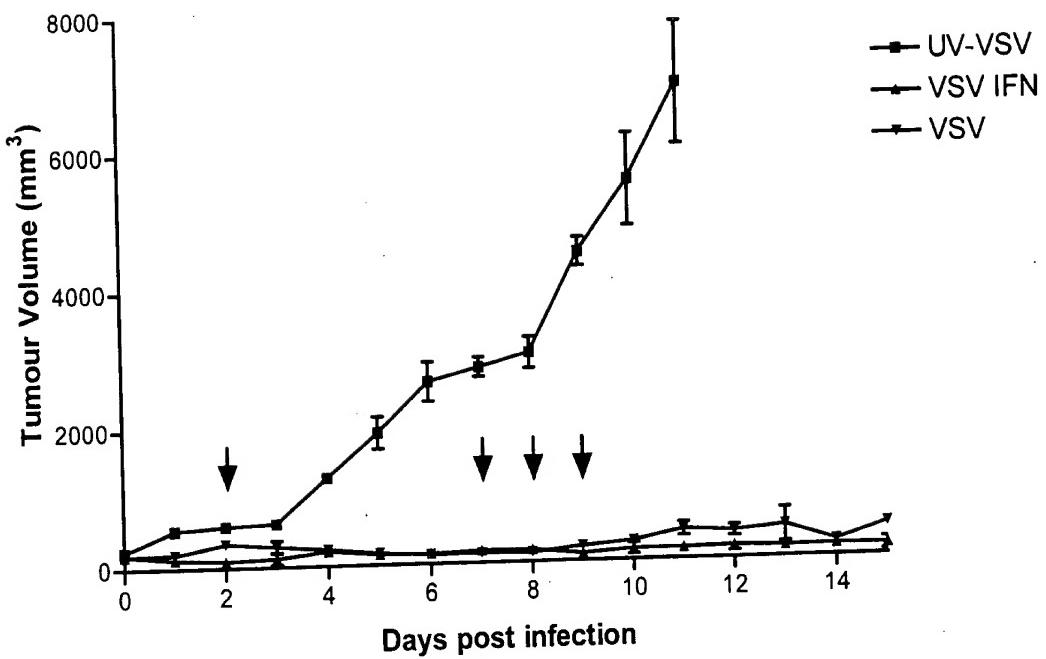


FIGURE 9

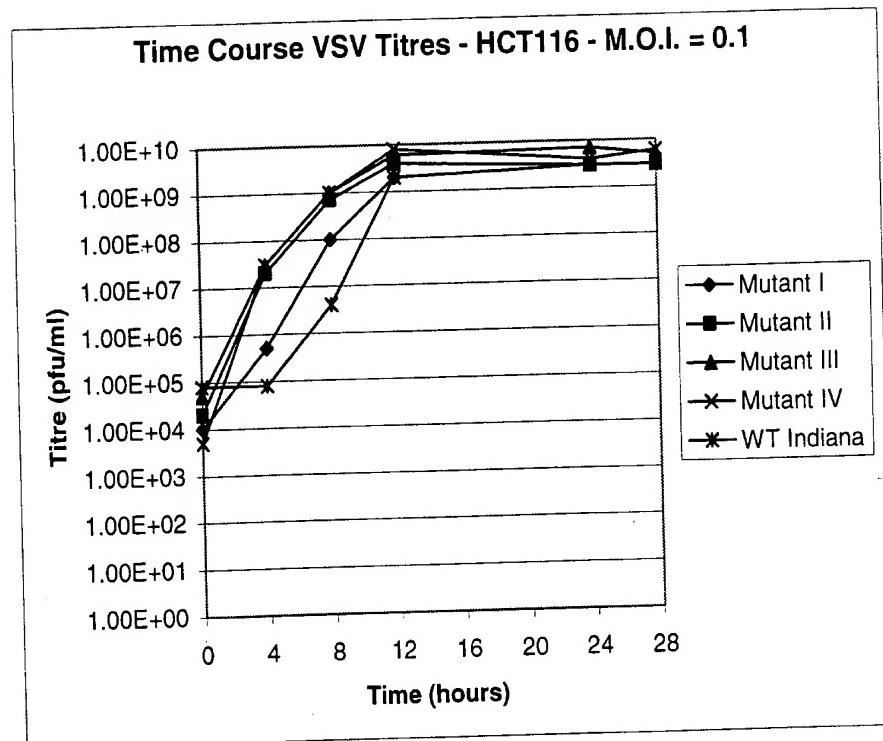


FIGURE 10A

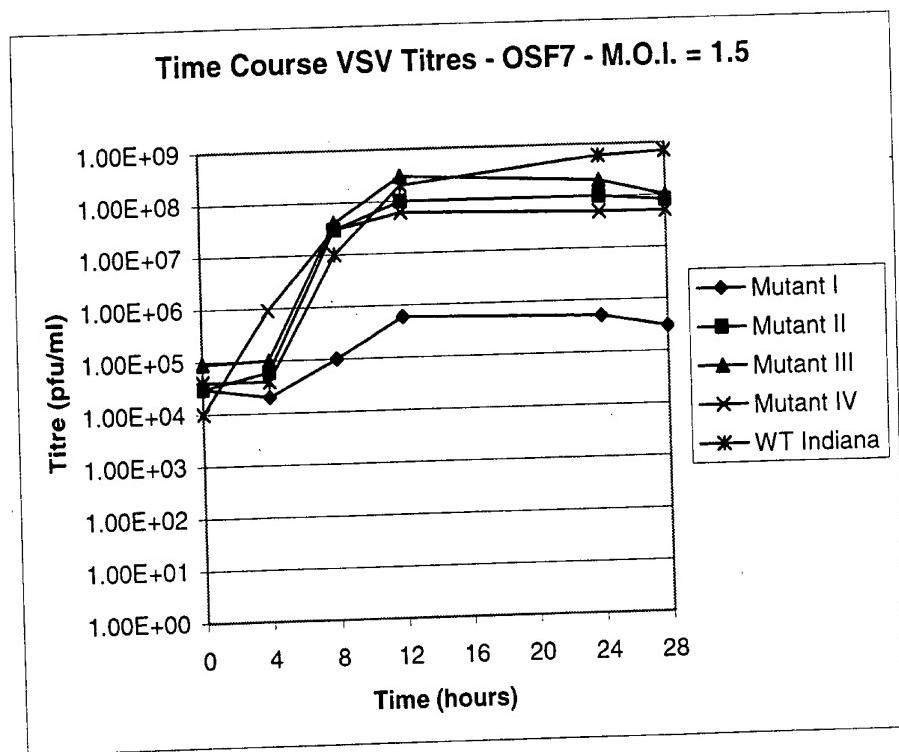


FIGURE 10B

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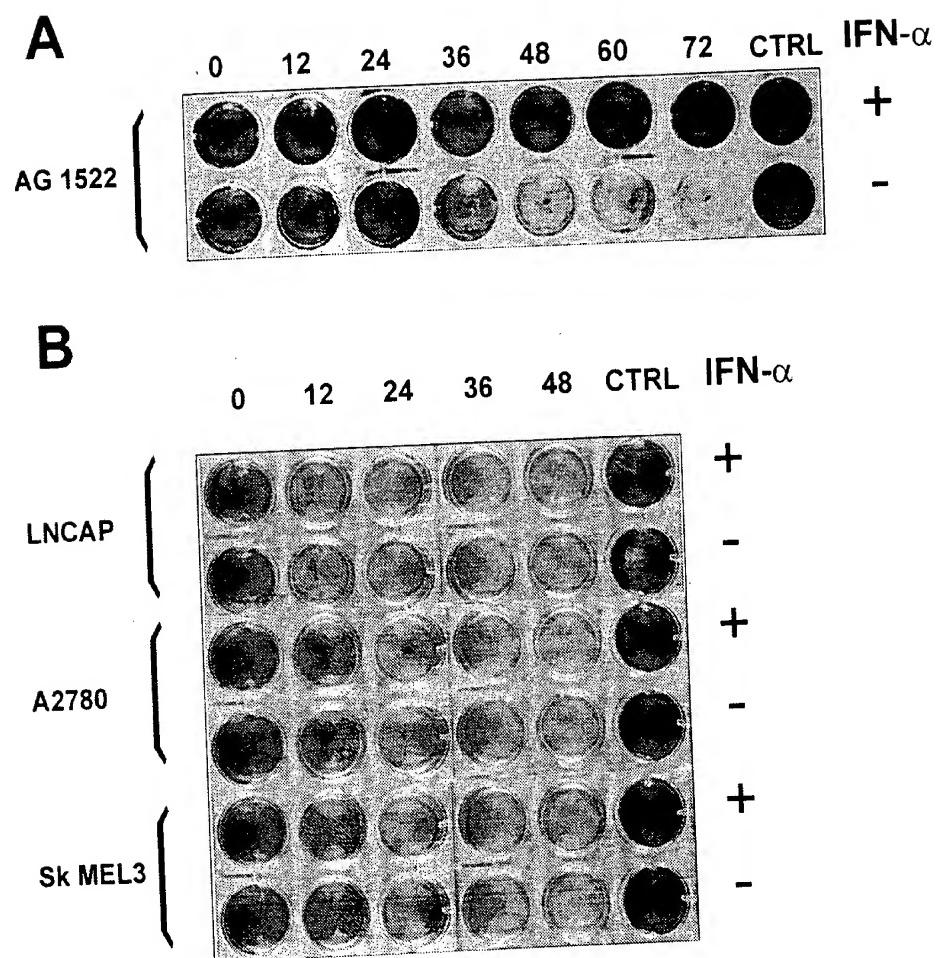


FIGURE 11

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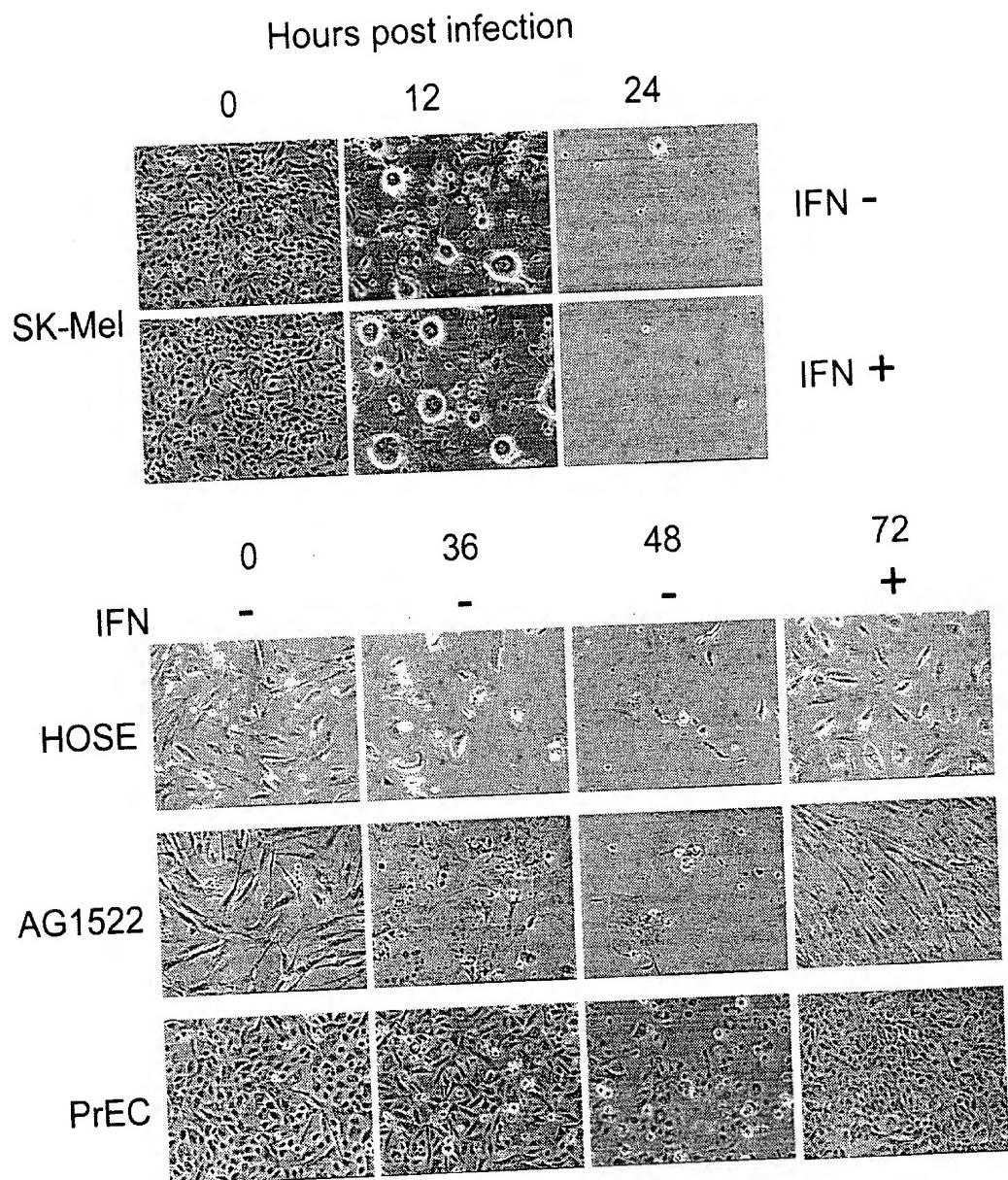


FIGURE 12

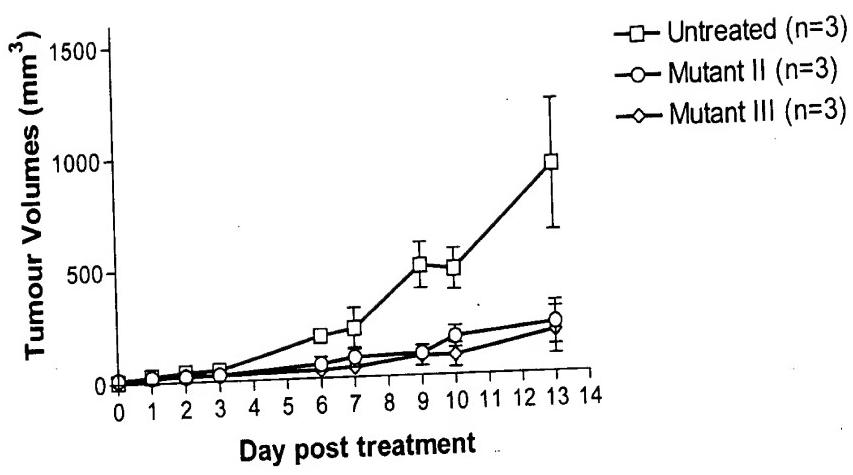


FIGURE 13

GenBank N nucl.	1	ATGCTCTTACAGTCAGAGAATCATTGACAACACAGTCATAAGTCCAAAACCTCCTGCA
HR N nucl.		ATGCTCTTACAGTCAGAGAATCATTGCAACACAGTCATAAGTCCAAAACCTCCTGCA
M2 N nucl.		ATGCTCTTACAGTCAGAGAATCATTGACAACACAGTCATAAGTCCAAAACCTCCTGCA
M3 N nucl.		ATGCTCTTACAGTCAGAGAATCATTGACAACACAGTCATAAGTCCAAAACCTCCTGCA
M4 N nucl.		.....
GenBank N nucl.	61	AATGAGGATCCAGTGGAAATACCCGGCAGATTACTTCAGAAAATCAAAGGAGATTCCTCTT
HR N nucl.		AATGAGGATCCAGTGGAAATACCCGGCAGATTACTTCAGAAAATCAAAGGAGATTCCTCTT
M2 N nucl.		AATGAGGATCCAGTGGAAATACCCGGCAGATTACTTCAGAAAATCAAAGGAGATTCCTCTT
M3 N nucl.		AATGAGGATCCAGTGGAAATACCCGGCAGATTACTTCAGAAAATCAAAGGAGATTCCTCTT
M4 N nucl.		.....
GenBank N nucl.	120	TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
HR N nucl.		TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
M2 N nucl.		TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
M3 N nucl.		TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
M4 N nucl.		.....
GenBank N nucl.	180	TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
HR N nucl.		TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
M2 N nucl.		TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
M3 N nucl.		TACATCAAACTACAAAAAGTTGTCAAGAGGATATGCTTACCAAGGCCTCAA
M4 N nucl.		.....
GenBank N nucl.	240	TCCGGAAATGTATCAATCATACATGTCAACAGCTACTTGTATGGAGCATTAAAGGACATC
HR N nucl.		TCCGGAAATGTATCAATCATACATGTCAACAGCTACTTGTATGGAGCATTGAAGGACATC
M2 N nucl.		TCCGGAAATGTATCAATCATACATGTCAACAGCTACTTGTATGGAGCATTGAAGGACATC
M3 N nucl.		TCCGGAAATGTATCAATCATACATGTCAACAGCTACTTGTATGGAGCATTGAAGGACATC
M4 N nucl.		TCAATCATACATGTCAACAGCTACTTGTATGGAGCATTGAAGGACATC
GenBank N nucl.	300	CGGGGTAAGTTGGATAAAAGATTGGTCAAGTTTGGAAATAAACATCGGGAAAGCAGGGGAT
HR N nucl.		CGGGGTAAGTTGGATAAAAGATTGGTCAAGTTTGGAAATAAACATCGGGAAAGGCAGGGGAT
M2 N nucl.		CGGGGTAAGTTGGATAAAAGATTGGTCAAGTTTGGAAATAAACATCGGGAAAGGCAGGGGAT
M3 N nucl.		CGGGGTAAGTTGGATAAAAGATTGGTCAAGTTTGGAAATAAACATCGGGAAAGGCAGGGGAT
M4 N nucl.		CGGGGTAAGTTGGATAAAAGATTGGTCAAGTTTGGAAATAAACATCGGGAAAGGCAGGGGAT
GenBank N nucl.	360	ACAATCGGAATATTTGACCTTGATCCTGAAAGCCCTGGACGGCGTACTTCCAGATGGA
HR N nucl.		ACAATCGGAATATTTGACCTTGATCCTGAAAGCCCTGGACGGGTACTTCCAGATGGA
M2 N nucl.		ACAATCGGAATATTTGACCTTGATCCTGAAAGCCCTGGACGGGTACTTCCAGATGGA
M3 N nucl.		ACAATCGGAATATTTGACCTTGATCCTGAAAGCCCTGGACGGGTACTTCCAGATGGA
M4 N nucl.		ACAATCGGAATATTTGACCTTGATCCTGAAAGCCCTGGACGGGTACTTCCAGATGGA
GenBank N nucl.	420	GTATCGGATGCTTCCAGAACCGCGCAGATGACAAATGGTTGCCCTTGATCTACTTGGC
HR N nucl.		GTATCGGATGCTTCCAGAACCGCGCAGATGACAAATGGTTGCCCTTGATCTACTTGGC
M2 N nucl.		GTATCGGATGCTTCCAGAACCGCGCAGATGACAAATGGTTGCCCTTGATCTACTTGGC
M3 N nucl.		GTATCGGATGCTTCCAGAACCGCGCAGATGACAAATGGTTGCCCTTGATCTACTTGGC
M4 N nucl.		GTATCGGATGCTTCCAGAACCGCGCAGATGACAAATGGTTGCCCTTGATCTACTTGGC
GenBank N nucl.	480	TTATACAGAGTGGGAGAACACAAATGCCCTGAATACAGAAAAAGCTCATGGATGGGCTG
HR N nucl.		TTATACAGAGTGGGAGAACACAAATGCCCTGAATACAGAAAAAGGCTCATGGATGGGCTG
M2 N nucl.		TTATACAGAGTGGGAGAACACAAATGCCCTGAATACAGAAAAAGGCTCATGGATGGGCTG
M3 N nucl.		TTATACAGAGTGGGAGAACACAAATGCCCTGAATACAGAAAAAGGCTCATGGATGGGCTG
M4 N nucl.		TTATACAGAGTGGGAGAACACAAATGCCCTGAATACAGAAAAAGGCTCATGGATGGGCTG

FIGURE 14.1

DNA sequence analysis

	481	540
GenBank N nucl.	ACAAATCAATGCAAAATGATCAATGAACAGTTAACCTCTTGTGCCAGAAGGTCGTGAC	
HR N nucl.	ACAAATCAATGCAAAATGATCAATGAACAGTTAACCTCTTGTGCCAGAAGGTCGTGAC	
M2 N nucl.	ACAAATCAATGCAAAATGATCAATGAACAGTTAACCTCTTGTGCCAGAAGGTCGTGAC	
M3 N nucl.	ACAAATCAATGCAAAATGATCAATGAACAGTTAACCTCTTGTGCCAGAAGGTCGTGAC	
M4 N nucl.	ACAAATCAATGCAAAATGATCAATGAACAGTTAACCTCTTGTGCCAGAAGGTCGTGAC	
	541	600
GenBank N nucl.	ATTTTGATGTGGGGAAATGACAGTAATTACACAAAAATTGTCGCTGCAGTGGACATG	
HR N nucl.	ATTTTGATGTGGGGAAATGACAGTAATTACACAAAAATTGTCGCTGCAGTGGACATG	
M2 N nucl.	ATTTTGATGTGGGGAAATGACAGTAATTACACAAAAATTGTCGCTGCAGTGGACATG	
M3 N nucl.	ATTTTGATGTGGGGAAATGACAGTAATTACACAAAAATTGTCGCTGCAGTGGACATG	
M4 N nucl.	ATTTTGATGTGGGGAAATGACAGTAATTACACAAAAATTGTCGCTGCAGTGGACATG	
	601	660
GenBank N nucl.	TTCTCCACATGTCACAAACATGAATGTGCCTCGTTCAGATAACGGAACATTGTTTCC	
HR N nucl.	TTCTCCACATGTCACAAACATGAATGTGCCTCGTTCAGATAACGGAACATTGTTTCC	
M2 N nucl.	TTCTCCACATGTCACAAACATGAATGTGCCTCGTTCAGATAACGGAACATTGTTTCC	
M3 N nucl.	TTCTCCACATGTCACAAACATGAATGTGCCTCGTTCAGATAACGGAACATTGTTTCC	
M4 N nucl.	TTCTCCACATGTCACAAACATGAATGTGCCTCGTTCAGATAACGGAACATTGTTTCC	
	661	720
GenBank N nucl.	AGATTCAAAGATTGTGCTGATTGGCACACCTCTGCAAAATAACCGGAATG	
HR N nucl.	AGATTCAAAGATTGTGCTGATTGGCACACCTCTGCAAAATAACCGGAATG	
M2 N nucl.	AGATTCAAAGATTGTGCTGATTGGCACACCTCTGCAAAATAACCGGAATG	
M3 N nucl.	AGATTCAAAGATTGTGCTGATTGGCACACCTCTGCAAAATAACCGGAATG	
M4 N nucl.	AGATTCAAAGATTGTGCTGATTGGCACACCTCTGCAAAATAACCGGAATG	
	721	780
GenBank N nucl.	TCTACAGAAGATGTAACGACCTGGATCTGAACCGAGAAGTTGAGATGA A TGGTCCAA	
HR N nucl.	TCTACAGAAGATGTAACGACCTGGATCTGAACCGAGAAGTTGAGATGA G ATGGTCCAA	
M2 N nucl.	TCTACAGAAGATGTAACGACCTGGATCTGAACCGAGAAGTTGAGATGA G ATGGTCCAA	
M3 N nucl.	TCTACAGAAGATGTAACGACCTGGATCTGAACCGAGAAGTTGAGATGA G ATGGTCCAA	
M4 N nucl.	TCTACAGAAGATGTAACGACCTGGATCTGAACCGAGAAGTTGAGATGA G ATGGTCCAA	
	781	840
GenBank N nucl.	ATGATGCTTCCAGGCCAAGAAATTGACAAGGCCGATTCATACATGCCTTATTGATCGAC	
HR N nucl.	ATGATGCTTCCAGGCCAAGAAATTGACAAGGCCGATTCATACATGCCTTATTGATCGAC	
M2 N nucl.	ATGATGCTTCCAGGCCAAGAAATTGACAAGGCCGATTCATACATGCCTTATTGATCGAC	
M3 N nucl.	ATGATGCTTCCAGGCCAAGAAATTGACAAGGCCGATTCATACATGCCTTATTGATCGAC	
M4 N nucl.	ATGATGCTTCCAGGCCAAGAAATTGACAAGGCCGATTCATACATGCCTTATTGATCGAC	
	841	900
GenBank N nucl.	TTTGATTGTCTCTAAGTCTCCATATTCTCGTCAAAACCTGCCCTCACTTCTGG	
HR N nucl.	TTTGATTGTCTCTAAGTCTCCATATTCTCGTCAAAACCTGCCCTCACTTCTGG	
M2 N nucl.	TTTGATTGTCTCTAAGTCTCCATATTCTCGTCAAAACCTGCCCTCACTTCTGG	
M3 N nucl.	TTTGATTGTCTCTAAGTCTCCATATTCTCGTCAAAACCTGCCCTCACTTCTGG	
M4 N nucl.	TTTGATTGTCTCTAAGTCTCCATATTCTCGTCAAAACCTGCCCTCACTTCTGG	

FIGURE 14-2

GenBank N nucl.	901	GGGCAATTGACAGCTTCTGCTCAGATCCACCAGAGCAAGGAATGCCGACAGCCTGAT
HR N nucl.		GGGCAATTGACAGCTTCTGCTCAGATCCACCAGAGCAAGGAATGCCGACAGCCTGAT
M2 N nucl.		GGGCAATTGACAGCTTCTGCTCAGATC T ACCAGAGCAAGGAATGCCGACAGCCTGAT
M3 N nucl.		GGGCAATTGACAGCTTCTGCTCAGATCCACCAGAGCAAGGAATGCCGACAGCCTGAT
M4 N nucl.		GGGCAATTGAC.....T
GenBank N nucl.	960	GACATTGAGTATACTCTTACTACAGCAGGTTGTTGACGTTATGCAGTAGGATCC
HR N nucl.		GACATTGAGTATACTCTTACTACAGCAGGTTGTTGACGTTATGCAGTAGGATCC
M2 N nucl.		GACATTGAGTATACTCTTACTACAGCAGGTTGTTGACGTTATGCAGTAGGATCC
M3 N nucl.		GACATTGAGTATACTCTTACTACAGCAGGTTGTTGACGTTATGCAGTAGGATCC
M4 N nucl.		GACATTGAGTATACTCT T ACTACAGCAGGTTGTTGACGTTATGCAGTAGGATCC
GenBank N nucl.	1020	TCTGCCGACTTGGCACAAACAGTTTGTGTTGGAGATA A CAAATACACTCCAGATGATAGT
HR N nucl.		TCTGCTGACTTGGCACAAACAGTTTGTGTTGGAGATA G CAAATACACTCCAGATGATAGT
M2 N nucl.		TCTGCTGACTTGGCACAAACAGTTTGTGTTGGAGATA G CAAATACACTCCAGATGATAGT
M3 N nucl.		TCTGCTGACTTGGCACAAACAGTTTGTGTTGGAGATA G CAAATACACTCCAGATGATAGT
M4 N nucl.		TCTGCTGACTTGGCACAN C AGTTTGTGTTGGAGATA G CAAATACACTCCAGATGATAGT
GenBank N nucl.	1080	ACCGGAGGATTGACGACTAATGCACCGCCACAAGGCAGAGATGTGGTCGAATGGCTCGGA
HR N nucl.		ACCGGAGGATTGACGACTAATGCACCGCCACAAGGCAGAGATGTGGTCGAATGGCTCGGA
M2 N nucl.		ACCGGAGGATTGACGACTAATGCACCGCCACAAGGCAGAGATGTGGTCGAATGGCTCGGA
M3 N nucl.		ACCGGAGGATTGACGACTAATGCACCGCCACAAGGCAGAGATGTGGTCGAATGGCTCGGA
M4 N nucl.		ACCGGAGGATTGACGACTAATGCACCGCCACAAGGCAGAGATGTGGTCGAATGGCTCGGA
GenBank N nucl.	1140	TGGTTGAAGATCAAAACAGAAAACCGACTCCTGATATGATGCA G AGTATGCGAAAGAGCA
HR N nucl.		TGGTTGAAGATCAAAACAGAAAACCGACTCCTGATATGATGCA G AGTATGCGAAACGAGCA
M2 N nucl.		TGGTTGAAGATCAAAACAGAAAACCGACTCCTGATATGATGCA G AGTATGCGAAACGAGCA
M3 N nucl.		TGGTTGAAGATCAAAACAGAAAACCGACTCCTGATATGATGCA G AGTATGCGAAACGAGCA
M4 N nucl.		TGGTTGAAGATCAAAACAGAAAACCGACTCCTGATATGATGCA G AGTATGCGAAACGAGCA
GenBank N nucl.	1200	GTCATGTCACTGCAAGGCC T AAGAGAGAAGACAATTGGCAAGTATGCTAAC T GTCAA T TT
HR N nucl.		GTCATGTCACTGCAAGGCC T AAGAGAGAAGACAATTGGCAAGTATGCTAAC T GTCAA T TT
M2 N nucl.		GTCATGTCACTGCAAGGCC T AAGAGAGAAGACAATTGGCAAGTATGCTAAC T GTCAA T TT
M3 N nucl.		GTCATGTCACTGCAAGGCC T AAGAGAGAAGACAATTGGCAAGTATGCTAAC T GTCAA T TT
M4 N nucl.		GTCATGTCACTGCAAGGCC T AAGAGAGAAGACAATTGGCAAGTATGCTAAC T GTCAA T TT
GenBank N nucl.	1261 1269	GACAAATGA
HR N nucl.		GACAAATGA
M2 N nucl.		GACAAATGA
M3 N nucl.		GACAAATGA
M4 N nucl.		GACAAATGA

FIGURE 14-3

GenBank	N a.a.	1	MSVTVKRIIDNTVIVPKLPANEDPVEYPADYFRKSKEIPLYINTTKSLSSDLRGYVYQGLK
	HR N a.a.		MSVTVKRIIA N TIVPKLPANEDPVEYPADYFRKSKEIPLYINTTKSLSSDLRGYVYQGLK
	M3 N a.a.		MSVTVKRIIDNTVIVPKLPANEDPVEYPADYFRKSKEIPLYINTTKSLSSDLRGYVYQGLK
	M4 N a.a.		.....
		120	
GenBank	N a.a.	61	SGNVSIIHVNSYLYGALKDIRGKLDKDWSSEFGINIGKAGDTIGIFDLVSLKALDGVLPDG
	HR N a.a.		SGNVSIIHVNSYLYGALKDIRGKLDKDWSSEFGINIGKAGDTIGIFDLVSLKALDGVLPDG
	M3 N a.a.		SGNVSIIHVNSYLYGALKDIRGKLDKDWSSEFGINIGKAGDTIGIFDLVSLKALDGVLPDG
	M4 N a.a.		....SIIHVNSYLYGALKDIRGKLDKDWSSEFGINIGKAGDTIGIFDLVSLKALDGVLPDG
		180	
GenBank	N a.a.	121	VSDASRTSADDKWPLPLYLLGLYRVRGRTQMPEYRK K LMDGLTNQCKMINEQFEPLVPEGRD
	HR N a.a.		VSDASRTSADDKWPLPLYLLGLYRVRGRTQMPEYRKRLMDGLTNQCKMINEQFEPLVPEGRD
	M3 N a.a.		VSDASRTSADDKWPLPLYLLGLYRVRGRTQMPEYRKRLMDGLTNQCKMINEQFEPLVPEGRD
	M4 N a.a.		VSDASRTSADDKWPLPLYLLGLYRVRGRTQMPEYRKRLMDGLTNQCKMINEQFEPLVPEGRD
		240	
GenBank	N a.a.	181	IFDVWGNDNSNYTKIVAAVDMFFHMFKKHECASFRYGTIVSRFKDCAALATFGHLKITGM
	HR N a.a.		IFDVWGNDNSNYTKIVAAVDMFFHMFKKHECASFRYGTIVSRFKDCAALATFGHLKITGM
	M3 N a.a.		IFDVWGNDNSNYTKIVAAVDMFFHMFKKHECASFRYGTIVSRFKDCAALATFGHLKITGM
	M4 N a.a.		IFDVWGNDNSNYTKIVAAVDMFFHMFKKHECASFRYGTIVSRFKDCAALATFGHLKITGM
		300	
GenBank	N a.a.	241	STEDVTTWILNREVADEMVMMLPGQEIDKADSYMPYLIDFGLSSKSPYSSVKNPAFHFW
	HR N a.a.		STEDVTTWILNREVADEMVMMLPGQEIDKADSYMPYLIDFGLSSKSPYSSVKNPAFHFW
	M3 N a.a.		STEDVTTWILNREVADEMVMMLPGQEIDKADSYMPYLIDFGLSSKSPYSSVKNPAFHFW
	M4 N a.a.		STEDVTTWILNREVADEMVMMLPGQEIDKADSYMPYLIDFGLSSKSPYSSVKNPAFHFW
		360	
GenBank	N a.a.	301	GQLTALLRSTRARNARQPDDIEYTSLTAGLLYAYAVGSSADLAQQFCVGDN K YTPDDS
	HR N a.a.		GQLTALLRSTRARNARQPDDIEYTSLTAGLLYAYAVGSSADLAQQFCVGDSKYTPDDS
	M3 N a.a.		GQLTALLRSTRARNARQPDDIEYTSLTAGLLYAYAVGSSADLAQQFCVGDSKYTPDDS
	M4 N a.a.		GQLT.....DIEYTS X TAGLLYAYAVGSSADLA X QFCVGDSKYTPDDS
		420	
GenBank	N a.a.	361	TGGLTTNAPPQGRDVVEWLGFEDQNRKPTPDMMQYAKRAVMSLQGLREKTIGKYAKSEF
	HR N a.a.		TGGLTTNAPPQGRDVVEWLGFEDQNRKPTPDMMQYAKRAVMSLQGLREKTIGKYAKSEF
	M3 N a.a.		TGGLTTNAPPQGRDVVEWLGFEDQNRKPTPDMMQYAKRAVMSLQGLREKTIGKYAKSEF
	M4 N a.a.		TGGLTTNAPPQGRDVVEWLGFEDQNRKPTPDMMQYAKRAVMSLQGLREKTIGKYAKSEF
		421 423	
GenBank	N a.a.	DK.	
	HR N a.a.		DK.
	M3 N a.a.		DK.
	M4 N a.a.		DK.

FIGURE 15

DNA Sequencing

GenBank P nucl.	1	ATGGATAATCTCACAAAAGTCGTGAGTATCTCAAGTCCTATTCTCGTCTGATCAGGCG
HR P nucl.		ATGGATAATCTCACAAAAGTCGTGAGTATCTCAAGTCCTATTCTCGTCTAGATCAGGCG
M2 P nucl.		ATGGATAATCTCACAAAAGTCGTGAGTATCTCAAGTCCTATTCTCGTCTAGATCAGGCG
M3 P nucl.		ATGGATAATCTCACAAAAGTCGTGAGTATCTCAAGTCCTATTCTCGTCTAGATCAGGCG
M4 P nucl.		ATGGATAATCTCACAAAAGTCGTGAGTATCTCAAGTCCTATTCTCGTCTAGATCAGGCG
GenBank P nucl.	61	GTAGGAGAGATAGATGAGATCGAACGACAAACGAGCTGAAAAGTCCAATTATGAGTTGTT
HR P nucl.		GTAGGAGAGATAGATGAGATCGAACGACAAACGAGCTGAAAAGTCCAATTATGAGTTGTT
M2 P nucl.		GTAGGAGAGATAGATGAGATCGAACGACAAACGAGCTGAAAAGTCCAATTATGAGTTGTT
M3 P nucl.		GTAGGAGAGATAGATGAGATCGAACGACAAACGAGCTGAAAAGTCCAATTATGAGTTGTT
M4 P nucl.		GTAGGAGAGATAGATGAGATCGAACGACAAACGAGCTGAAAAGTCCAATTATGAGTTGTT
GenBank P nucl.	121	CAAGAGGA T GGAGTGGAAAGAGCATACTA A GCCCTTATTTCAGGCAGCAGATGATTCT
HR P nucl.		CAAGAGGACGGAGTGGAAAGAGCATACTAGGCCCTTATTTCAGGCAGCAGATGATTCT
M2 P nucl.		CAAGAGGACGGAGTGGAAAGAGCATACTAGGCCCTTATTTCAGGCAGCAGATGATTCT
M3 P nucl.		CAAGAGGACGGAGTGGAAAGAGCATACTAGGCCCTTATTTCAGGCAGCAGATGATTCT
M4 P nucl.		CAAGAGGACGGAGTGGAAAGAGCATACTAGGCCCTTATTTCAGGCAGCAGATGATTCT
GenBank P nucl.	181	GACACAGAACTGAACCAGAAATTGAAGACAATCAAGG T TTGTATGCACAGGATCCAGAA
HR P nucl.		GACACAGAACTGAACCAGAAATTGAAGACAATCAAGGTTGTATGTACCAGATCCGGAA
M2 P nucl.		GACACAGAACTGAACCAGAAATTGAAGACAATCAAGGTTGTATGTACCAGATCCGGAA
M3 P nucl.		GACACAGAACTGAACCAGAAATTGAAGACAATCAAGGTTGTATGTACCAGATCCGGAA
M4 P nucl.		GACACAGAACTGAACCAGAAATTGAAGACAATCAAGGTTGTATGTACCAGATCCGGAA
GenBank P nucl.	241	GCTGAGCAAGTTGAAGGCTTATACAGGGGCTTAGATGACTATGCAGATGAGGAAGTG
HR P nucl.		GCTGAGCAAGTTGAAGGCTTATACAGGGGCTTAGATGACTATGCAGATGAGGAAGTG
M2 P nucl.		GCTGAGCAAGTTGAAGGCTTATACAGGGGCTTAGATGACTATGCAGATGAGGAAGTG
M3 P nucl.		GCTGAGCAAGTTGAAGGCTTATACAGGGGCTTAGATGACTATGCAGATGAGGAAGTG
M4 P nucl.		GCTGAGCAAGTTGAAGGCTTATACAGGGGCTTAGATGACTATGCAGATGAGGAAGTG
GenBank P nucl.	301	GATGTTGTATT T ACTTCGGACTGGAAAC C ACCTGAGCTTGAATCTGACGAGCATGGAAAG
HR P nucl.		GATGTTGTATTCACTTCGGACTGGAAACAGCCTGAGCTTGAATCCGACGAGCATGGAAAG
M2 P nucl.		GATGTTGTATTCACTTCGGACTGGAAACAGCCTGAGCTTGAATCCGACGAGCATGGAAAG
M3 P nucl.		GATGTTGTATTCACTTCGGACTGGAAACAGCCTGAGCTTGAATCCGACGAGCATGGAAAG
M4 P nucl.		GATGTTGTATTCACTTCGGACTGGAAACAGCCTGAGCTTGAATCCGACGAGCATGGAAAG
GenBank P nucl.	361	ACCTTACGGTTGACAT C GCCAGAGGGTTAAGTGGAGAGCAGAAATCCCAGTGGCTT T G
HR P nucl.		ACCTTACGGTTGACATTGCCAGAGGGTTAAGTGGAGAGCAGAAATCCCAGTGGCTTTTG
M2 P nucl.		ACCTTACGGTTGACATTGCCAGAGGGTTAAGTGGAGAGCAGAAATCCCAGTGGCTTTTG
M3 P nucl.		ACCTTACGGTTGACATTGCCAGAGGGTTAAGTGGAGAGCAGAAATCCCAGTGGCTTTTG
M4 P nucl.		ACCTTACGGTTGACATTGCCAGAGGGTTAAGTGGAGAGCAGAAATCCCAGTGGCTTTTG

FIGURE 16-1

	421		480
GenBank P nucl.	ACGATTAAGCAGTCGTCAAAGTGCCTAAACTGGATCTGGCAGAGTGCACATTGAA		
HR P nucl.	ACGATTAAGCAGTCGTCAAAGTGCCTAAACACTGGATCTGGCAGAGTGCACATTGAA		
M2 P nucl.	ACGATTAAGCAGTCGTCAAAGTGCCTAAACACTGGATCTGGCAGAGTGCACATTGAA		
M3 P nucl.	ACGATTAAGCAGTCGTCAAAGTGCCTAAACACTGGATCTGGCAGAGTGCACATTGAA		
M4 P nucl.	ACGATTAAGCAGTCGTCAAAGTGCCTAAACACTGGATCTGGCAGAGTGCACATTGAA		
	481		540
GenBank P nucl.	GCATCGGGAGAAGGGGTCATATGAACGGAGCGCCAGATAACTCCGGATGTATATAAGGTC		
HR P nucl.	GCATCGGGAGAAGGGGTCATCATAAAAAGCGCCAGATAACTCCGGATGTATATAAGGTC		
M2 P nucl.	GCATCGGGAGAAGGGGTCATCATAAAAAGCGCCAGATAACTCCGGATGTATATAAGGTC		
M3 P nucl.	GCATCGGGAGAAGGGGTCATCATAAAAAGCGCCAGATAACTCCGGATGTATATAAGGTC		
M4 P nucl.	GCATCGGGAGAAGGGGTCATCATAAAAAGCGCCAGATAACTCCGGATGTATATAAGGTC		
	541		600
GenBank P nucl.	ACTCCAGTGATGAACACACATCCGTCCCAATCAGAACGAGTATCAGATGTTGGTCTCTC		
HR P nucl.	ACTCCAGTGATGAACACACATCCGTCCCAATCAGAACGCCGTATCAGATGTTGGTCTCTC		
M2 P nucl.	ACTCCAGTGATGAACACACATCCGTCCCA.....		
M3 P nucl.	ACTCCAGTGATGAACACACATCCGTCCCAATCAGAACGCCGTATCAGATGTTGGTCTCTC		
M4 P nucl.	ACTCCAGTGATGAACACACATCCGTCCCAATCAGAACGCCGTATCAGATGTTGGTCTCTC		
	601		660
GenBank P nucl.	TCAAAGACATCCATGACTTCCAACCCAAGAAAGCAAGTCTTCAGCCTCTCACCATATCC		
HR P nucl.	TCAAAGACATCCATGACTTCCAACCCAAGAAAGCAAGTCTTCAGCCTCTCACCATATCC		
M2 P nucl.	.....	
M3 P nucl.	TCAAAGACATCCATGACTTCCAACCCAAGAAAGCAAGTCTTCAGCCTCTCACCATATCC		
M4 P nucl.	TCAAAGACATCCATGACTTCCAACCCAAGAAAGCAAGTCTTCAGCCTCTCACCATATCC		
	661		720
GenBank P nucl.	TTGGATGAATTGTTCTCATCTAGAGGAGAATTCATCTGTGCGGAGGTGACGGACGAATG		
HR P nucl.	TTGGATGAATTGTTCTCATCTAGAGGAGAATTCATCTGTGCGGAGGTAAACGGACGAATG		
M2 P nucl.	.....	
M3 P nucl.	TTGGATGAATTGTTCTCATCTAGAGGAGAATTCATCTGTGCGGAGGTAAACGGACGAATG		
M4 P nucl.	TTGGATGAATTGTTCTCATCTAGAGGAGAATTCATCTGTGCGGAGGTAAACGGACGAATG		
	721		780
GenBank P nucl.	TCTCATAAAGAGGCCATCCTGCTCGGCCTGAGATACAAAAAGTTGTACAATCAGGCCGAGA		
HR P nucl.	TCTCATAAAGAGGCCATCCTGCTCGGTCTGAGGTACAAAAAGTTGTACAATCAGGCCGAGA		
M2 P nucl.	.....	
M3 P nucl.	TCTCATAAAGAGGCCATCCTGCTCGGTCTGAGGTACAAAAAGTTGTACAATCAGGCCGAGA		
M4 P nucl.	TCTCATAAAGAGGCCATCCTGCTCGGTCTGAGGTACAAAAAGTTGTACAATCAGGCCGAGA		
	781	798	
GenBank P nucl.	GTCAAATATTCTCTGTAG		
HR P nucl.	GTCAAATATTCTCTGTAG		
M2 P nucl.		
M3 P nucl.	GTCAAATATTCTCTGTAG		
M4 P nucl.	GTCAAATATTCTCTGTAG		

FIGURE 16-2

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GenBank	P	a.a.	1	MDNLTKVREYLKSYSRLDQAVGEIDEIEAQRAEKSNEYELFQEDGVEEHT	60
HR	P	a.a.		MDNLTKVREYLKSYSRLDQAVGEIDEIEAQRAEKSNEYELFQEDGVEEHT	
M2	P	a.a.		MDNLTKVREYLKSYSRLDQAVGEIDEIEAQRAEKSNEYELFQEDGVEEHT	
M3	P	a.a.		MDNLTKVREYLKSYSRLDQAVGEIDEIEAQRAEKSNEYELFQEDGVEEHT	
M4	P	a.a.		MDNLTKVREYLKSYSRLDQAVGEIDEIEAQRAEKSNEYELFQEDGVEEHT	
GenBank	P	a.a.	61	DTESEPEIEDNQGLYAQDPEAEQVEGFIQGPLDDYADE	120
HR	P	a.a.		DTESEPEIEDNQGLYVPDPEAEQVEGFIQGPLDDYADE	
M2	P	a.a.		DTESEPEIEDNQGLYVPDPEAEQVEGFIQGPLDDYADE	
M3	P	a.a.		DTESEPEIEDNQGLYVPDPEAEQVEGFIQGPLDDYADE	
M4	P	a.a.		DTESEPEIEDNQGLYVPDPEAEQVEGFIQGPLDDYADE	
GenBank	P	a.a.	121	TLRLTSPEGLSGEQKSQWLSTIKAVVQSAKWNLAECTFEASGEGVI	180
HR	P	a.a.		TLRLTLP EG LSGEQKSQWLTLIKAVVQSAKHWNLAECTFEASGEGVI	
M2	P	a.a.		TLRLTLP EG LSGEQKSQWLTLIKAVVQSAKHWNLAECTFEASGEGVI	
M3	P	a.a.		TLRLTLP EG LSGEQKSQWLTLIKAVVQSAKHWNLAECTFEASGEGVI	
M4	P	a.a.		TLRLTLP EG LSGEQKSQWLTLIKAVVQSAKHWNLAECTFEASGEGVI	
GenBank	P	a.a.	181	TPVMNTHPSQSEAVSDVWSLSKTSMTFQPKKASLQPLTISLDELFSSRGEFISVGGDGRM	240
HR	P	a.a.		TPVMNTHPSQSEAVSDVWSLSKTSMTFQPKKASLQPLTISLDELFSSRGEFISVGGNRM	
M2	P	a.a.		TPVMNTHPSQ.....	
M3	P	a.a.		TPVMNTHPSQSEAVSDVWSLSKTSMTFQPKKASLQPLTISLDELFSSRGEFISVGGNRM	
M4	P	a.a.		TPVMNTHPSQSEAVSDVWSLSKTSMTFQPKKASLQPLTISLDELFSSRGEFISVGGNRM	
GenBank	P	a.a.	241	SHKEAILLGLRYKKLYNQARVKYSL	266
HR	P	a.a.		SHKEAILLGLRYKKLYNQARVKYSL	
M2	P	a.a.		.....
M3	P	a.a.		SHKEAILLGLRYKKLYNQARVKYSL	
M4	P	a.a.		SHKEAILLGLRYKKLYNQARVKYSL	

FIGURE 17

GenBank M nucl.	1	ATGAGTTCTTAAAGAAGATTCTCGGTCTGAAGGGAAAGGTAAGAAATCTAAGAAATTA
HR M nucl.		ATGAGTTCTTAAAGAAGATTCTCGGTCTGAAGGGAAAGGTAAGAAATCTAAGAAATTA
M3 M nucl.		ATGAGTTCTTAAAGAAGATTCTCGGTCTGAAGGGAAAGGTAAGAAATCTAAGAAATTA
M4 M nucl.		ATGAGTTCTTAAAGAAGATTCTCGGTCTGAAGGGAAAGGTAAGAAATCTAAGAAATTA
61		
GenBank M nucl.	GGGATCGCACCACCCCTTATGAAGAGGACACTA	C CATGGACTATGCTCCGAGCGCTCCA
HR M nucl.	GGGATCGCACCACCCCTTATGAAGAGGACACTAACATGGACTATGCTCCGAGCGCTCCA	
M3 M nucl.	GGGATCGCACCACCCCTTATGAAGAGGACACTAACATGGACTATGCTCCGAGCGCTCCA	
M4 M nucl.	GGGATCGCACCACCCCTTATGAAGAGGACACTAACATGGACTATGCTCCGAGCGCTCCA	
120		
GenBank M nucl.	ATTGACAAATCCTATTTGGAGTTGACGAGATGGACAC	C TATGATCCGAAATCAATTAAAGA
HR M nucl.	ATTGACAAATCCTATTTGGAGTTGACGAGATGGACACTCATGATCCGCATCAATTAAAGA	
M3 M nucl.	ATTGACAAATCCTATTTGGAGTTGACGAGA	G GGACACTCATGATCCGCATCAATTAAAGA
M4 M nucl.	ATTGACAAATCCTATTTGGAGTTGACGAGATGGACACTCATGATCCGCATCAATTAAAGA	
180		
GenBank M nucl.	TATGAGAAATTCTCTTACACTGAAAATGACGGTTAGATCTAATCGTCCGTTAGAACAA	
HR M nucl.	TATGAGAAATTCTCTTACAGTGAAAATGACGGTTAGATCTAATCGTCCGTTAGAACAA	
M3 M nucl.	TATGAGAAATTCTCTTACAGTGAAAATGACGGTTAGATCTAATCGTCCGTTAGAACAA	
M4 M nucl.	TATGAGAAATTCTCTTACAGTGAAAATGACGGTTAGATCTAATCGTCCGTTAGAACAA	
181		
GenBank M nucl.	TACTCAGATGTGGCAGCCGCTGTATCCCATTGGGATCACATGTACATCGGAATGGCAGGG	
HR M nucl.	TACTCAGATGTGGCAGCCGCTGTATCCCATTGGGATCACATGTACATCGGAATGGCAGGG	
M3 M nucl.	TACTCAGATGTGGCAGCCGCTGTATCCCATTGGGATCACATGTACATCGGAATGGCAGGG	
M4 M nucl.	TACTCAGATGTGGCAGCCGCTGTATCCCATTGGGATCACATGTACATCGGAATGGCAGGG	
240		
GenBank M nucl.	300	
HR M nucl.		
M3 M nucl.		
M4 M nucl.		
241		
GenBank M nucl.	AAACGTCCTTCTACAA	A ATCTGGCTTTGGGTTCTTCTAAATCTAAAGGCCACTCCA
HR M nucl.	AAACGTCCTTCTACAAAGATCTGGCTTTGGGTTCTTCTAAATCTAAAGGCCACTCCA	
M3 M nucl.	AAACGTCCTTCTACAAAGATCTGGCTTTGGGWTCTTCTAAATCTAAAGGCCACTCCA	
M4 M nucl.	AAACGTCCTTCTACAAAGATCTGGCTTTGGGTTCTTCTAAATCTAAAGGCCACTCCA	
301		
GenBank M nucl.	360	
HR M nucl.		
M3 M nucl.		
M4 M nucl.		
361		
GenBank M nucl.	420	
HR M nucl.		
M3 M nucl.		
M4 M nucl.		
421		
GenBank M nucl.	480	
HR M nucl.		
M3 M nucl.		
M4 M nucl.		
481		
GenBank M nucl.	540	
HR M nucl.		
M3 M nucl.		
M4 M nucl.		

FIGURE 18-1

	541	600
GenBank M nucl.	GAGTCACTGGAAGCAGCTCCTATGATCTGGGATCATTCAATTCTCAAATTCTGAT	
HR M nucl.	GAGTCACTGGAAGCAGCTCCTATGATCTGGGATCATTCAATTCTCAAATTCTGAT	
M3 M nucl.	GAGTCACTGGAAGCAGCTCCTATGATCTGGGATCATTCAATTCTCAAATTCTGAT	
M4 M nucl.	GAGTCACTGGAAGCAGCTCCTATGATCTGGGATCATTCAATTCTCAAATTCTGAT	
	601	660
GenBank M nucl.	TTCAGAGAGAAGGCCTTAATGTTGGCCTGATTGTCGAGAAAAAGGCATCTGGAGCTTGG	
HR M nucl.	TTCAGAGAGAAGGCCTTAATGTTGGCCTGATTGTCGAGAAAAAGGCATCTGGAGCTTGG	
M3 M nucl.	TTCAGAGAGAAGGCCTTAATGTTGGCCTGATTGTCGAGAAAAAGGCATCTGGAGCTTGG	
M4 M nucl.	TTCAGAGAGAAGGCCTTAATGTTGGCCTGATTGTCGAGAAAAAGGCATCTGGAGCTTGG	
	661	690
GenBank M nucl.	GTCCTGGATTCTTCAGCCACTTCAAATGA	
HR M nucl.	GTCCTGGATTCTGTCAGCCACTTCAAATGA	
M3 M nucl.	GTCCTGGATTCTGTCAGCCACTTCAAATGA	
M4 M nucl.	GTCCTGGATTCTGTCAGCCACTTCAAATGA	

FIGURE 18-2

GenBank M a.a.

GenBank M a.a. HR M a.a. M4 M a.a. M3 M a.a.	1 MSSLKKILGLKGKGKSKKLGIAPPPYEEDT S MEYAPSAPIDKSYFGVDEMDTYDPNQLR MSSLKKILGLKGKGKSKKLGIAPPPYEEDTNMEYAPSAPIDKSYFGVDEMDTHDPHQLR MSSLKKILGLKGKGKSKKLGIAPPPYEEDTNMEYAPSAPIDKSYFGVDEMDTHDPHQLR MSSLKKILGLKGKGKSKKLGIAPPPYEEDTNMEYAPSAPIDKSYFGVDERDTHDPHQLR
GenBank M a.a. HR M a.a. M4 M a.a. M3 M a.a.	61 YEKFFFVVKMTVRSNRPFRTYSVAAAASHWDHMYIGMAGKRPFYKILAFLGSSNLKATP YEKFFFVVKMTVRSNRPFRTYSVAAAASHWDHMYIGMAGKRPFYKILAFLGSSNLKATP YEKFFFVVKMTVRSNRPFRTYSVAAAASHWDHMYIGMAGKRPFYKILAFLGSSNLKATP YEKFFFVVKMTVRSNRPFRTYSVAAAASHWDHMYIGMAGKRPFYKILAFLGSSNLKATP
GenBank M a.a. HR M a.a. M4 M a.a. M3 M a.a.	121 AVLADQQPEYH T CEGRAYLPHRMGKTPPMLNVPEHRRPFNIGLYKGT T ELTMTIYDD AVLADQQPEYHAHCEGRAYLPHRMGKTPPMLNVPEHRRPFNIGLYKGTVELTMTIYDD AVLADQQPEYHAHCEGRAYLPHRMGKTPPMLNVPEHRRPFNIGLYKGTVELTMTIYDD AVLADQQPEYHAHCEGRAYLPHRMGKTPPMLNVPEHRRPFNIGLYKGTVELTMTIYDD
GenBank M a.a. HR M a.a. M4 M a.a. M3 M a.a.	181 ESLEAAPMIWDHFNFSSKFSDFREKALMFGLIVEKKASGAWLDS T SHFK. ESLEAAPMIWDHFNFSSKFSDFREKALMFGLIVEKKASGAWLDSVSHFK. ESLEAAPMIWDHFNFSSKFSDFREKALMFGLIVEKKASGAWLDSVSHFK. ESLEAAPMIWDHFNFSSKFSDFREKALMFGLIVEKKASGAWLDSVSHFK.

FIGURE 19

PDB ID: 3D69

		60
GenBank G nucl.	1 ATGAAGTGCCTTTGTACTTAGCCTTTTATTCA	GGGGTGAATTGCAAGTCACCATA
HR G nucl.	ATGAAGTGCCTTTGKACTTAGCTTTTATTCA	TGGGGTGAATTGCAAGTCACCATA
M2 G nucl.	.....	.....
M3 G nucl.	ATGAAGTGCCTTTGTACTTAGCTTTTATTCA	CGGGGTGAATTGCAAGTCACCATA
M4 G nucl.	ATGAAGTGCCTTTGTACTTAGCTTTTATTCA	CGGGGTGAATTGCAAGTCACCATA
	120	
GenBank G nucl.	61 GTTTTCCACACAACCAAAAGGAACTGGAAAATGTTCTTC	AATTACCATTATTGCAATTACCATTATTGCA
HR G nucl.	GT	TTTCCATACAACCAAAAGGAACTGGAAAATGTTCTTC
M2 G nucl.	.....	.....
M3 G nucl.	GT	TTTCCATACAACCAAAAGGAACTGGAAAATGTTCTTC
M4 G nucl.	GT	TTTCCATACAACCAAAAGGAACTGGAAAATGTTCTTC
	180	
GenBank G nucl.	121 CCGTCAAGCTCAGATTAAATTGGCATAATGACTTAATAGGCACAGCC	ATACAAGTCAAA
HR G nucl.	CCGTCAAGCTCAGATTAAATTG	CATAATGACTTAATAGGCACAGCCTTACAAGTCAAA
M2 G nucl.	.....	.....
M3 G nucl.	CCGTCAAGCTCAGATTAAATTGGCATAATGACTTAATAGGCACAGCCTTACAAGTCAAA	
M4 G nucl.	CCGTCAAGCTCAGATTAAATTGGCATAATGACTTAATAGGCACAGCCTTACAGGTCAA	
	240	
GenBank G nucl.	181 ATGCCAAGAGTCACAAGGCTATTCAAGCAGACGGTTGGATGTGTCATGCTTCAAATGG	
HR G nucl.	ATGCCAAGAGTCACAAGGCTATTCAAGCAGACGGTTGGATGTGTCATGCTTCAAATGG	
M2 G nucl.	.....	.....
M3 G nucl.	ATGCCAAGAGTCACAAGGCTATTCAAGCAGACGGTTGGATGTGTCATGCTTCAAATGG	
M4 G nucl.	ATGCCAAGAGTCACAAGGCTATTCAAGCAGACGGTTGGATGTGTCATGCTTCAAATGG	
	300	
GenBank G nucl.	241 GTCACTACTTGTGATTCCGCTGGTA	TGGACCGAAGTATATAACACAGTCATCCGATCC
HR G nucl.	GTCACTACTTGTGATTCCGCTGGTACGGACCGAAGTATATAACACATTCCATCCGATCC	
M2 G nucl.	.....	.....
M3 G nucl.	GTCACTACTTGTGATTCCGCTGGTACGGACCGAAGTATATAACACATTCCATCCGATCC	
M4 G nucl.	GTCACTACTTGTGATTCCGCTGGTACGGACCGAAGTATATAACACATTCCATCCGATCC	
	360	
GenBank G nucl.	301 TTCACTCCATCTGTAGAACATGCAAGGAAAGCATTGAACAAACGAAACAAGGAACATTGG	
HR G nucl.	TTCACTCCATCTGTAGAACATGCAAGGAAAGCATTGAACAAACGAAACAAGGAACATTGG	
M2 G nucl.	.....	.....
M3 G nucl.	TTCACTCCATCTGTAGAACATGCAAGGAAAGCATTGAACAAACGAAACAAGGAACATTGG	
M4 G nucl.	TTCACTCCATCTGTAGAACATGCAAGGAAAGCATTGAACAAACGAAACAAGGAACATTGG	
	420	
GenBank G nucl.	361 CTGAATCCAGGCTCCCTCCTCAAAGTTGTGGATATGCACTGTGACGGATGCGAAGCA	
HR G nucl.	CTGAATCCAGGCTCCCTCCTCAAAGTTGTGGATATGCACTGTGACGGATGCTGAAGCA	
M2 G nucl.	.....	.....
M3 G nucl.	CTGAATCCAGGCTCCCTCCTCAAAGTTGTGGATATGCACTGTGACGGATGCTGAAGCA	
M4 G nucl.	CTGAATCCAGGCTCCCTCCTCAAAGTTGTGGATATGCACTGTGACGGATGCTGAAGCA	
	480	
GenBank G nucl.	421 CGATTGTCCAGGTGACTCCTCACCATGTGCTGGTGAATACACAGGAGAATGGGTT	
HR G nucl.	GCGATTGTCCAGGTGACTCCTCACCATGTGCTTGATGAATACACAGGAGAATGGGTT	
M2 G nucl.	.....	.....
M3 G nucl.	GCGATTGTCCAGGTGACTCCTCACCATGTGCTTGATGAATACACAGGAGAATGGGTT	
M4 G nucl.	GCGATTGTCCAGGTGACTCCTCACCATGTGCTTGATGAATACACAGGAGAATGGGTT	

FIGURE 20-1

	481	540
GenBank G nucl.	GATTACAGTTCATCAACGGAAAATGCAGCAAT	ACATATGCCCACTGTCCATAACTCT
HR G nucl.	GATTACAGTTCATCAACGGAAAATGCAGCAAT	ACATATGCCCACTGTCCATAACTCC
M2 G nucl.	.....	.....
M3 G nucl.	GATTACAGTTCATCAACGGAAAATGCAGCAAT	ACATATGCCCACTGTCCATAACTCC
M4 G nucl.	GATTACAGTTCATCAACGGAAAATGCAGCAAT	ACATATGCCCACTGTCCATAACTCC
	541	600
GenBank G nucl.	ACAACCTGGCATTCTGACTATAAGGTCAAAGGGCTATGTGATTCTAACCTAACCTCATTTCCATG	.....
HR G nucl.	ACAACCTGGCATTCCGACTATAAGGTCAAAGGGCTATGTGATTCTAACCTAACCTCATTTCCATG	.....
M2 G nucl.	.....	.....
M3 G nucl.	ACAACCTGGCATTCCGACTATAAGGTCAAAGGGCTATGTGATTCTAACCTAACCTCATTTCCATG	.....
M4 G nucl.	ACAACCTGGCATTCCGACTATAAGGTCAAAGGGCTATGTGATTCTAACCTAACCTCATTTCCATG	.....
	601	660
GenBank G nucl.	GACATCACCTTCTCTCAGAGGACGGAGAGCTATCATCCCTCGAAAGGAGGGCACAGGG	.....
HR G nucl.	GACATCACCTTCTCTCAGAGGACGGAGAGCTATCATCCCTAGGAAAGGAGGGCACAGGG	.....
M2 G nucl.	.....	.....
M3 G nucl.	GACATCACCTTCTCTCAGAGGACGGAGAGCTATCATCCCTAGGAAAGGAGGGCACAGGG	.....
M4 G nucl.	GACATCACCTTCTCTCAGAGGACGGAGAGCTATCATCCCTAGGAAAGGAGGGCACAGGG	.....
	661	720
GenBank G nucl.	TTCAGAAGTAACTACTTGCTTATGAAACTGGAGCAAGGCCTGAAAATGCAAATCTGC	.....
HR G nucl.	TTCAGAAGTAACTACTTGCTTATGAAACTGGAGACAAGGCCTGAAAATGCAGTACTGC	.....
M2 G nucl.	.....	.....
M3 G nucl.	TTCAGAAGTAACTACTTGCTTATGAAACTGGAGACAAGGCCTGAAAATGCAGTACTGC	.....
M4 G nucl.	TTCAGAAGTAACTACTTGCTTATGAAACTGGAGACAAGGCCTGAAAATGCAGTACTGC	.....
	721	780
GenBank G nucl.	AAGCATTGGGGAGTCAGACTCCCATCAGGTGTCGGTCAGATGGCTGATAAGGATCTC	.....
HR G nucl.	AAGCGTTGGGGAGTCAGACTCCCATCAGGTGTCGGTCAGATGGCTGATAAGGATCTC	.....
M2 G nucl.	.....	.....
M3 G nucl.	AAGCATTGGGGAGTCAGACTCCCATCAGGTGTCGGTCAGATGGCTGATAAGGATCTC	.....
M4 G nucl.	AAGCGTTGGGGAGTCAGACTCCCATCAGGTGTCGGTCAGATGGCTGATAAGGATCTC	.....
	781	840
GenBank G nucl.	TTTGCTGCAGCCAGATTCCCTGAATGCCAGAAGGGTCAAGTATCTGCTCCATCTCAG	.....
HR G nucl.	TTTGCTGCAGCCAGATTCCCTGAATGCCAGAAGGGTCAAGTATCTGCTCCATCTCAG	.....
M2 G nucl.	.....	.....
M3 G nucl.	TTTGCTGCAGCCAGATTCCCTGAATGCCAGAAGGGTCAAGTATCTGCTCCATCTCAG	.....
M4 G nucl.	TTTGCTGCAGCCAGATTCCCTGAATGCCAGAAGGGTCAAGTATCTGCTCCATCTCAG	.....
	841	900
GenBank G nucl.	ACCTCAGTGGATGTAAGTCTATTCAAGGACGTTGAGAGGATCTGGATTATTCCCTCTGC	.....
HR G nucl.	ACCTCAGTGGATGTAAGTCTATTCAAGGACGTTGAGAGGATCTTG.....	.....
M2 G nucl.	ACCTCAGTGGATGTAAGTCTATTCAAGGACGTTGAGAGGATCTGGATTATTCCCTCTGC	.....
M3 G nucl.	ACCTCAGTGGATGTAAGTCTATTCAAGGACGTTGAGAGGATCTGGATTATTCCCTCTGC	.....
M4 G nucl.	ACCTCAGTGGATGTAAGTCTATTCAAGGACGTTGAGAGGATCT.....	.....

FIGURE 20-2

PAPUA NEW GUINEA

	901	960
GenBank G nucl.	CAAGAAACCTGGAGCAAATCAGAGCGGGCTTCC	ATCTCTCCAGTGGATCTCAGCTAT
HR G nucl.	.....	.....
M2 G nucl.	CAAGAAACCTGGAGCAAATCAGAGCGGGCTTCC	CATCTCAGTGGATCTCAGCTAT
M3 G nucl.	CAAGAAACCTGGAGCAAATCAGAGCGGGCTTCC	CATCTCAGTGGATCTCAGCTAT
M4 G nucl.	.....	.....
	961	1020
GenBank G nucl.	CTTGCTCCTAAAAACCCAGGAACCGGTCTGCTTC	ACCATAATCAATGGTACCCCTAAA
HR G nucl.	.....	.....
M2 G nucl.	CTTGCTCCTAAAAACCCAGGAACCGGTCTGCTTC	CTGCTTACCATATAATCAATGGTACCCCTAAA
M3 G nucl.	CTTGCTCCTAAAAACCCAGGAACCGGTCTGCTTC	ACCATAATCAATGGTACCCCTAAA
M4 G nucl.	.....	.....
	1021	1080
GenBank G nucl.	TACTTGAGACCAGATACTCAGAGTCGATATTG	GCTCCAATCCTCTCAAGAATGGTC
HR G nucl.	.....	.....
M2 G nucl.	TACTTGAGACCAGATACTCAGAGTCGATATTG	GCTCCAATCCTCTCAAGAATGGTC
M3 G nucl.	TACTTGAGACCAGATACTCAGAGTCGATATTG	GCTCCAATCCTCTCAAGAATGGTC
M4 G nucl.	TACTTGAGACCAGATACTCAGAGTCGATATTG	GCTCCAATCCTCTCAAGAATGGTC
	1081	1140
GenBank G nucl.	GGAATGATCAGTGGAACTACCACAGAAAGG	GAACTGTGGGATGACTGGGCACCATATGAA
HR G nucl.	.....	.....
M2 G nucl.	GGAATGATCAGTGGAACTACCACAGAAAGG	GAACTGTGGGATGACTGGGCATATGAA
M3 G nucl.	GGAATGATCAGTGGAACTACCACAGAAAGG	GAACTGTGGGATGACTGGGCATATGAA
M4 G nucl.	GGAATGATCAGTGGAACTACCACAGAAAGG	GAACTGTGGGATGACTGGGCATATGAA
	1141	1200
GenBank G nucl.	GACGTGGAAATTGGACCCAATGGAGTTCTGAG	GACCAGTTCAAGGATATAAGTTCCCTTTA
HR G nucl.	.....	.....
M2 G nucl.	GACGTGGAAATTGGACCCAATGGAGTTCTGAG	GACCAGTTCAAGGATATAAGTTCCCTTTA
M3 G nucl.	GACGTGGAAATTGGACCCAATGGAGTTCTGAG	GACCAGTTCAAGGATATAAGTTCCCTTTA
M4 G nucl.	GACGTGGAAATTGGACCCAATGGAGTTCTGAG	GACCAGTTCAAGGATATAAGTTCCCTTTA
	1201	1260
GenBank G nucl.	TACATGATTGGACATGGTATGTTGGACTCC	GATCTTCATCTTAGCTCAAAGGCTCAGGTG
HR G nucl.	.....	.....
M2 G nucl.	TATATGATTGGACATGGTATGTTGGACTCC	GATCTTCATCTTAGCTCAAAGGCTCAGGTG
M3 G nucl.	TATATGATTGGACATGGTATGTTGGACTCC	GATCTTCATCTTAGCTCAAAGGCTCAGGTG
M4 G nucl.	TATATGATTGGACATGGTATGTTGGACTCC	GATCTTCATCTTAGCTCAAAGGCTCAGGTG
	1261	1320
GenBank G nucl.	TTCGAACATCCTCACATTCAAGACGCTGTT	CGCAACTTCCTGATGATGAGAGCTTATTT
HR G nucl.	.....	.....
M2 G nucl.	TTTGAACATCCTCACATTCAAGACGCTGTT	CGCAGCTCCTGATGATGAGAGCTTATTT
M3 G nucl.	TTTGAACATCCTCACATTCAAGACGCTGTT	CGCAGCTCCTGATGATGAGAGCTTATTT
M4 G nucl.	TTTGAACATCCTCACATTCAAGACGCTGTT	CGCAGCTCCTGATGATGAGAGCTTATTT

FIGURE 20-3

GenBank G nucl.	1321	1380
HR G nucl.	.....	TTTGGTGATACTGGGCTATCCAAAAATCCAATCGAGCTTGAGAAGGTTGGTCAGTAGT
M2 G nucl.	.....	TTTGGTGATACTGGGCTATCCAAAAATCCAATCGAGTTGTAGAAGGTTGGTCAGTAGT
M3 G nucl.	.....	TTTGGTGATACTGGGCTATCCAAAAATCCAATCGAGTTGTAGAAGGTTGGTCAGTAGT
M4 G nucl.	.....	TTTGGTGATACTGGGCTATCCAAAAATCCAATCGAGTTGTAGAAGGTTGGTCAGTAGT
		1440
GenBank G nucl.	1381	1440
HR G nucl.	.....	TGGAAAGCTCTATTGCCTTTTTCTTATCATAGGTTAACATTGGACTATTCTTG
M2 G nucl.	.....	TGGAAGAGCTCTATTGCCTTTTTCTTATCATAGGTTAACATTGGACTATTCTTG
M3 G nucl.	.....	TGGAAGAGCTCTATTGCCTTTTTCTTATCATAGGTTAACATTGGACTATTCTTG
M4 G nucl.	.....	TGGAAGAGCTCTATTGCCTTTTTCTTATCATAGGTTAACATTGGACTATTCTTG
		1500
GenBank G nucl.	1441	1500
HR G nucl.	.....	GTTCTCCGAGTTGGTATCCATCTTGCATTAATTAAAGCACACCAAGAAAAGACAGATT
M2 G nucl.	.....	GTTCTCCGAGTTGGTATTTATCTTGCATTAATTAAAGCACACCAAGAAAAGACAGATT
M3 G nucl.	.....	GTTCTCCGAGTTGGTATTTATCTTGCATTAATTAAAGCACACCAAGAAAAGACAGATT
M4 G nucl.	.....	GTTCTCCGAGTTGGTATTTATCTTGCATTAATTAAAGCACACCAAGAAAAGACAGATT
		1536
GenBank G nucl.	1501	1536
HR G nucl.	.....	TATACAGACATAGAGATGAACCGACTTGCAGTAA
M2 G nucl.	.....	TATACAGACATAGAGATGAACCGACTTGGGAAGTAA
M3 G nucl.	.....	TATACAGACATAGAGATGAACCGACTTGGGAAGTAA
M4 G nucl.	.....	TATACAGACATAGAGATGAACCGACTTGGGAAGTAA

FIGURE 20-4

GenBank G a.a.

GenBank G a.a.	1	MKCLLYLAFLFIGVNCKFTIVFPENQGNWNVPSNYHCPSSDLNWHNDLIGTATQVK MKCLLYLAFLFIGVNCKFTIVFPYNQGNWNVPSNYHCPSSDLNWHNDLIGTALQVK MKCLLYLAFLFIGVNCKFTIVFPYNQGNWNVPSNYHCPSSDLNWHNDLIGTALQVK MKCLLYLAFLFIGVNCKFTIVFPYNQGNWNVPSNYHCPSSDLNWHNDLIGTALQVK
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		
GenBank G a.a.	61	MPKSHKAIQADGWMCHASKWVTTCDFRWYGPKYITOSIRSFTPSVEQCKESIEQTQKGTV MPKSHKAIQADGWMCHASKWVTTCDFRWYGPKYITHSIRSFTPSVEQCKESIEQTQKGTV MPKSHKAIQADGWMCHASKWVTTCDFRWYGPKYITHSIRSFTPSVEQCKESIEQTQKGTV MPKSHKAIQADGWMCHASKWVTTCDFRWYGPKYITHSIRSFTPSVEQCKESIEQTQKGTV
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		
GenBank G a.a.	121	LNPGFPPQSCGYATVTDAAEVIVQVTPHHVLVDEYTGEWVDSQFINGKCSMVICPTVHNS LNPGFPPQSCGYATVTDAAEVIVQVTPHHVLVDEYTGEWVDSQFINGKCSNDICPTVHNS LNPGFPPQSCGYATVTDAAEVIVQVTPHHVLVDEYTGEWVDSQFINGKCSNDICPTVHNS LNPGFPPQSCGYATVTDAAEVIVQVTPHHVLVDEYTGEWVDSQFINGKCSNDICPTVHNS
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		
GenBank G a.a.	181	TTWHSODYKVKGLCDSNLISMDITFFSEDGELSSLGKEGTGFRSNYFAYETGCKACKMQYC TTWHSODYKVKGLCDSNLISMDITFFSEDGELSSLGKEGTGFRSNYFAYETGDKACKMQYC TTWHSODYKVKGLCDSNLISMDITFFSEDGELSSLGKEGTGFRSNYFAYETGDKACKMQYC TTWHSODYKVKGLCDSNLISMDITFFSEDGELSSLGKEGTGFRSNYFAYETGDKACKMQYC
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		
GenBank G a.a.	241	KHWGVRLPSGVWFEMADKDLFAAARFPECPEGSSISAPSQTSVDVSLIQDVERILDYSLC KRWGVRLPSGVWFEMADKDLFAAARFPECPEGSSISAPSQTSVDVSLIQDVERIL.... .....PSQTSVDVSLIQDVERILDYSLC KHWGVRLPSGVWFEMADKDLFAAARFPECPEGSSISAPSQTSVDVSLIQDVERILDYSLC KRWGVRLPSGVWFEMADKDLFAAARFPECPEGSSISAPSQTSVDVSLIQDVERI....
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		
GenBank G a.a.	301	QETWSKIRAGLPISPVDLSYLAPKNPGTGPFTAINGTLKYFETRYIRVDIAAPILSRMV QETWSKIRAGLPISPVDLSYLAPKNPGTGPVFTIINGTLKYFETRYIRVDIAAPILSRMV QETWSKIRAGLPISPVDLSYLAPKNPGTGPFTAINGTLKYFETRYIRVDIAAPILSRMV.....YFETRYIRVDIAAPILSRMV
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		
GenBank G a.a.	361	GMISGTTTERELWDDWAPYEDVEIGPNGVLRTSSGYKFPLYMIGHGMLSDLHLSSKAQV GMISGTTTERELWDDWAPYEDVEIGPNGVLRTSSGYKFPLYMIGHGMLSDLHLSSKAQV GMISGTTTERELWDDWAPYEDVEIGPNGVLRTSSGYKFPLYMIGHGMLSDLHLSSKAQV GMISGTTTERELWDDWAPYEDVEIGPNGVLRTSSGYKFPLYMIGHGMLSDLHLSSKAQV
HR G a.a.		
M2 G a.a.		
M3 G a.a.		
M4 G a.a.		

FIGURE 21-1

	421	480
GenBank G a.a.	FEHPHIQDAASQLPDDESLFFGDTGLSKNPIELVEGFSSWKSSIASF <small>F</small> FIIGLIIGLFL	
HR G a.a.	.....
M2 G a.a.	FEHPHIQDAASQLPDDET L FFGDTGLSKNPIEFVEGFSSWKSSIASF <small>F</small> FIIGLIIGLFL	
M3 G a.a.	FEHPHIQDA A SQLPDDET L FFGDTGLSKNPIEFVEGFSSWKSSIASF <small>F</small> FIIGLIIGLFL	
M4 G a.a.	FEHPHIQDAASQLPDDET L FFGDTGLSKNPIEFVEGFSSWKSSIASF <small>F</small> FIIGLIIGLFL	
		512
GenBank G a.a.	VLRVGI H LCI K LKHTKKRQIYTDIEMNRLGK	
HR G a.a.	.....
M2 G a.a.	VLRVGIYLCI K LKHTKKRQIYTDIEMNRLGK	
M3 G a.a.	VLRVGIYLCI K LKHTKKRQIYTDIEMNRLGK	
M4 G a.a.	VLRVGIYLCI K LKHTKKRQIYTDIEMNRLGK	

FIGURE 21-2

		60
GenBank L nucl.	1	ATGGAAGTCCACGATTTGAGACCGACGAGTTCAATGATTCAATGAAGATGACTATGCC
HR L nucl.	.....	.....
M2 L nucl.	.....	ATGGAAGTCCACGATTTGAGACCGACGAGTTCAATGATTCAATGAAGATGACTATGCC
M4 L nucl.	.....	ATGGAAGTCCACGATTTGAGACCGACGAGTTCAATGATTCAATGAAGATGACTATGCC
	61	ACAAGAGAATTCTGAATCCGATGAGCCATGACGTACTTGAATCATGCTGATTACAAT
GenBank L nucl.	.....	.....
HR L nucl.	.....	ACAAGAGAATTCTGAATCCGATGAGCCATGACGTACTTGAATCATGCTGATTACAAT
M2 L nucl.	.....	ACAAGAGAATTCTGAATCCGATGAGCCATGACGTACTTGAATCATGCTGATTACAAT
M4 L nucl.	.....
	121	180
GenBank L nucl.	TTGAATTCTCCTCTAATTAGTGATGATATTGACAATTGATCAGGAAATTCAATTCTCTT	TTGAATTCTCCTCTAATTAGTGATGATATTGACAATTGATCAGGAAATTCAATTCTCTT
HR L nucl.	.....	TTGAATTCTCCTCTAATTAGTGATGATATTGACAATTGATCAGGAAATTCAATTCTCTT
M2 L nucl.	.....	TTGAATTCTCCTCTAATTAGTGATGATATTGACAATTGATCAGGAAATTCAATTCTCTT
M4 L nucl.	.....
	181	240
GenBank L nucl.	CCGATTCCCTCGATGTGGATAGTAAGAACTGGGATGGAGTTCTTGAGATGTTAACATCA	CCGATTCCCTCGATGTGGATAGTAAGAACTGGGATGGAGTTCTTGAGATGTTAACATCA
HR L nucl.	.....	CCGATTCCCTCGATGTGGATAGTAAGAACTGGGATGGAGTTCTTGAGATGTTAACATCA
M2 L nucl.	.....	CCGATTCCCTCGATGTGGATAGTAAGAACTGGGATGGAGTTCTTGAGATGTTAACATCA
M4 L nucl.	.....
	241	300
GenBank L nucl.	TGTCAAGCCAATCCCCTCAACATCTCAGATGCATAAAATGGATGGGAAGTTGGTTAATG	.....
HR L nucl.	.....	.....
M2 L nucl.	.....	TGTCAAGCCAATCCCCTCAACATCTCAGATGCATAAAATGGATGGGAAGTTGGTTAATG
M4 L nucl.	.....	TGTCAAGCCAATCCCCTCAACATCTCAGATGCATAAAATGGATGGGAAGTTGGTTAATG
	301	360
GenBank L nucl.	TCTGATAATCATGATGCCAGTCAGGTATAGTTTTACATGAAGTGGACAAAGAGGCCA	.....
HR L nucl.	.....	.....
M2 L nucl.	.....	TCTGATAATCATGATGCCAGTCAGGTATAGTTTTACATGAAGTGGACAAAGAGGCCA
M4 L nucl.	.....	TCTGATAATCATGATGCCAGTCAGGTATAGTTTTACATGAAGTGGACAAAGAGGCCA
	361	420
GenBank L nucl.	GAAATAACATTGACGTGGTGGAGACCTTCATCCGGCTGGGCAACAAACCAATTGAA	.....
HR L nucl.	.....	.....
M2 L nucl.	.....	GAAATAACATTGACGTGGTGGAGACCTTCATCCGGCTGGGCAACAAACCAATTGAA
M4 L nucl.	.....
	421	480
GenBank L nucl.	TACATCAAAAAGGAAAGATGGACTGACTCATTCAAATTCTCGCTTATTGTGTCAAAG	.....
HR L nucl.	.....	.....
M2 L nucl.	.....	TACATCAAAAAGGAAAGATGGACTGACTCATTCAAATTCTCGCTTATTGTGTCAAAG
M4 L nucl.	.....
	481	540
GenBank L nucl.	TTTTGGACTTACACAAGTTGACATTAATCTTAAATGCTGTCTGAGGTGGAATTGCTC	.....
HR L nucl.	.....	.....
M2 L nucl.	.....	TTTTGGACTTACACAAGTTGACATTAATCTTAAATGCTGTCTGAGGTGGAATTGCTC
M4 L nucl.	.....

FIGURE 22-1

PUBLICATIONS

GenBank L nucl.	541	600
HR L nucl.	.....	.....
M2 L nucl.	.....	.....
M4 L nucl.	AACTTGGCGAGGACTTCAAAGGCAAAGTCAGAAGAAGTTCTCATGGAACGAACATATGC	.....
GenBank L nucl.	601	660
HR L nucl.	AGGATTAGGGTTCCCAGCTGGGTCTACTTTATTCAGAAGGATGGGCTTACTTCAAG	.....
M2 L nucl.	.....	.....
M4 L nucl.	AGGCTTAGGGTTCCCAGCTGGGTCTACTTTATTCAGAAGGATGGGCTTACTTCAAG	.....
GenBank L nucl.	661	720
HR L nucl.	AAACTTGATATTCTAATGGACCGAAACTTCTGTTAATGGTCAAAGATGTGATTATAGGG	.....
M2 L nucl.	.....	.....
M4 L nucl.	AAACTTGATATTCTAATGGACCGAAACTTCTGTTAATGGTCAAAGATGTGATTATAGGG	.....
GenBank L nucl.	721	780
HR L nucl.	AGGATGCAAACGGTGCTATCCATGGTATGTAGAATAGACAACCTGTTCTCAGAGCAAGAC	.....
M2 L nucl.	.....	.....
M4 L nucl.	AGGATGCAAACGGTGCTATCCATGGTATGTAGAATAGACAACCTGTTCTCAGAGCAAGAC	.....
GenBank L nucl.	781	840
HR L nucl.	ATCTTCTCCCTCTAAATATCTACAGAATTGGAGATAAAATTGGAGAGGGCAGGGAAAT	.....
M2 L nucl.	.....	.....
M4 L nucl.	ATCTTCTCCCTCTAAATATCTACAGAATTGGAGATAAAATTGGAGAGGGCAGGGAAAT	.....
GenBank L nucl.	841	900
HR L nucl.	TTTTCTTATGACTTGATTAAAATGGTGGAACCGATATGCAACTTGAAGCTGATGAAATTAA	.....
M2 L nucl.	.....	.....
M4 L nucl.	TTTTCTTATGACTTGATTAAAATGGTGGAACCGATATGCAACTTGAAGCTGATGAAATTAA	.....
GenBank L nucl.	901	960
HR L nucl.	GCAAGAGAATCAAGGCCTTACTCCCACAATTCCCTCATTTGAAAATCATATCAAGACT	.....
M2 L nucl.	.....	.....
M4 L nucl.	GCAAGAGAATCAAGGCCTTACTCCCACAATTCCCTCATTTGAAAATCATATCAAGACT	.....
GenBank L nucl.	961	1020
HR L nucl.	TCTGTTGATGAAGGGGCAAAATTGACCGAGGTATAAGATTCCCTCATGATCAGATAATG	.....
M2 L nucl.	.....	.....
M4 L nucl.	TCTGTTGATGAAGGGGCAAAATTGACCGAGGTATAAGATTCCCTCATGATCAGATAATG	.....

FIGURE 22-2

	1021	1080
GenBank L nucl.	AGTGTGAAAACAGTGGATCTCACACTGGTGATTATGGATCGTCAGACATTGGGGTCAT	
HR L nucl.	.....	CATTGGGGTCAT
M2 L nucl.		
M4 L nucl.	AGTGTGAAAACAGTGGATCTCACACTGGTGATTATGGATCGTCAGACATTGGGGTCAT	
	1081	1140
GenBank L nucl.	CCTTTTATAGATTATTACCTGGACTAGAAAAATTACATTCCAAGTAACCATGAAGAAA	
HR L nucl.	CCTTTTATAGATTATTACGCTGGCTAGAAAATTACATTCCAAGTWACCATAAGAAA	
M2 L nucl.	.....
M4 L nucl.	CCTTTTATAGATTATTACGCTGGACTAGAAAATTACATTCCAAGTAACCATGAAGAAA	
	1141	1200
GenBank L nucl.	GATATTGATGTGTCATATGCAAAAGCACTTGCAGTGATTAGCTCGGATTGTTCTATT	
HR L nucl.	GATATTGATGTGTCATATGCRAAGCACTTGCAGTGATTAGCTCGGATTGTTCTATT	
M2 L nucl.	.....
M4 L nucl.	GATATTGATGTGTCATATGCAAAAGCACTTGCAGTGATTAGCTCGGATTGTTCTATT	
	1201	1260
GenBank L nucl.	CAACAGTTCAATGATCATAAAAAGTGGTCGTGAATGGAGACTTGCTCCCTCATGATCAT	
HR L nucl.	CAACAGTTCAATGATCATAMAAAGTGGTCGTGAATGGAGACTTGCTCCCTCATGATCAT	
M2 L nucl.	.....
M4 L nucl.	CAACAGTTCAATGATCATAAAAAGTGGTCGTGAATGGAGACTTGCTCCCTCATGATCAT	
	1261	1320
GenBank L nucl.	CCCTTTAAAAGTCATGTTAAGAAAATACATGGCCCACAGCTGCTCAAGTTCAAGATT	
HR L nucl.	CCCTTTAAAAGTCATGTTAAGAAAATACATGGCCCACAGCTGCTCAAGTTCAAGATT	
M2 L nucl.	.....
M4 L nucl.	CCCTTTAAAAGTCATGTTAAGAAAATACATGGCCCACAGCTGCTCAAGTTCAAGATT	
	1321	1380
GenBank L nucl.	GGAGATAATGGCATGAACCTCCGCTGATTAAATGTTTGAAATACCGACTTACTAGAC	
HR L nucl.	GGAGATAATGGCATGAACCTCCGCTGATTAAATGTTTGAAATACCGACTTACTAGAC	
M2 L nucl.	.....
M4 L nucl.	GGAGATAATGGCATGAACCTCCGCTGATTAAATGTTTGAAATACCGACTTACTAGAC	
	1381	1440
GenBank L nucl.	CCATCGATAATATACTCTGACAAAAGTCATTCAATGAATAGGTCAAGAGGTGTTGAAACAT	
HR L nucl.	CCATCGATAATATACTCTGACAAAAGTCATTCAATGAATAGGTCAAGAGGTGTTGAAACAT	
M2 L nucl.	.....
M4 L nucl.	CCATCGATAATATACTCTGACAAAAGTCATTCAATGAATAGGTCAAGAGGTGTTGAAACAT	
	1441	1500
GenBank L nucl.	GTCCGAATGAATCCGAACACTCCTATCCCTAGTAAAAAGGTGTTGCAGACTATGTTGGAC	
HR L nucl.	GTCCGAATGAATCCGAACACTCCTATCCCTAGTAAAAAGGTGTTGCAGACTATGTTGGAC	
M2 L nucl.	.....
M4 L nucl.	GTCCGAATGAATCCGAACACTCCTATCCCTAGTAAAAAGGTGTTGCAGACTATGTTGGAC	

FIGURE 22-3

	1501	1560
GenBank L nucl.	ACAAAGGCTACCAATTGAAAGAATTCTTAAAGAGATTGATGAGAAGGGCTTAGATGAT	
HR L nucl.	ACAAAGGCTACCAATTGAAAGAATTCTTAAAGAGATTGATGAGAAGGGCTTAGATGAT	
M2 L nucl.	.....
M4 L nucl.	ACAAAGGCTACCAATTGAAAGAATTCTTAAAGAGATTGATGAGAAGGGCTTAGATGAT	
	1561	1620
GenBank L nucl.	GATGATCTAATTATTGGCTTAAAGGAAAGGAGAGGGAACTGAAGTTGGCAGGTAGATT	
HR L nucl.	GATGATCTAATTATTGGCTTAAAGGAAAGGAGAGGGAACTGAAGTTGGCAGGTAGATT	
M2 L nucl.	.....
M4 L nucl.	GATGATCTAATTATTGGCTTAAAGGAAAGGAGAGGGAACTGAAGTTGGCAGGTAGATT	
	1621	1680
GenBank L nucl.	TTCTCCCTAATGTCTTGGAAATTGCGAGAAACTTGTAAATTACCGAATATTGATAAAG	
HR L nucl.	TTCTCCCTAATGTCTTGGAAATTGCGAGAAACTTGTAAATTACCGAATATTGATAAAG	
M2 L nucl.	.....
M4 L nucl.	TTCTCCCTAATGTCTTGGAAATTGCGAGAAACTTGTAAATTACCGAATATTGATAAAG	
	1681	1740
GenBank L nucl.	ACTCATTCGTCCTATGTTAAAGGCCTGACAATGGCGGACGATCTAACTGCAGTCATT	
HR L nucl.	ACTCATTCGTCCTATGTTAAAGGCCTGACAATGGCGGACGATCTAACTGCAGTCATT	
M2 L nucl.	.....
M4 L nucl.	ACTCATTCGTCCTATGTTAAAGGCCTGACAATGGCGGACGATCTAACTGCAGTCATT	
	1741	1800
GenBank L nucl.	AAAAAGATGTTAGATTCTCATCCGCCAAGGATTGAAAGTCATATGAGGCAATTGCATA	
HR L nucl.	AAAAAGATGTTAGATTCTCATCCGCCAAGGATTGAAAGTCATATGAGGCAATTGCATA	
M2 L nucl.	.....
M4 L nucl.	AAAAAGATGTTAGATTCTCATCCGCCAAGGATTGAAAGTCATATGAGGCAATTGCATA	
	1801	1860
GenBank L nucl.	GCCAATCACATTGATTACGAAAATGGAATAACCACCAAGGAAGTTATCAAACGGCCA	
HR L nucl.	GCCAATCACATTGATTACGAAAATGGAATAACCACCAAGGAAGTTATCAAACGGCCA	
M2 L nucl.	.....
M4 L nucl.	GCCAATCACATTGATTACGAAAATGGAATAACCACCAAGGAAGTTATCAAACGGCCA	
	1861	1920
GenBank L nucl.	GTGTTCCGAGTTATGGGCCAGTTCTTAGTTATCCATCCTTAATCGAGAGAACTCATGAA	
HR L nucl.	GTGTTCCGAGTTATGGGCCAGTTCTTAGTTATCCATCCTTAATCGAGAGAACTCATGAA	
M2 L nucl.	.....
M4 L nucl.	GTGTTCCGAGTTATGGGCCAGTTCTTAGTTATCCATCCTTAATCGAGAGAACTCATGAA	
	1921	1980
GenBank L nucl.	TTTTTGAGAAAAGTCTTATATACTACAATGGAAGACCAGACTTGATGCGTGTTCACAAC	
HR L nucl.	TTTTTGAGAAAAGTCTTATATACTACAATGGAAGACCAGACTTGATGCGTGTTCACAAC	
M2 L nucl.	.....
M4 L nucl.	TTTTTGAGAAAAGTCTTATATACTACAATGGAAGACCAGACTTGATGCGTGTTCACAAC	
	1981	2040
GenBank L nucl.	AACACACTGATCAATTCAACCTCCCAACGAGTTGTTGGCAAGGACAAGAGGGTGGACTG	
HR L nucl.	AACACACTGATCAATTCAACCTCCCAACGAGTTGTTGGCAAGGACAAGAGGGTGGACTG	
M2 L nucl.	.....
M4 L nucl.	AACACACTGATCAATTCAACCTCCCAACGAGTTGTTGGCAAGGACAAGAGGGTGGACTG	

FIGURE 22-4

Sequence 5'

	2041	2100
GenBank L nucl.	GAAGGTCTACGGCAAAAGGATGGA	GAAGGTCTACGGCAAAAGGATGGA
HR L nucl.	CTATCCTCAATCTACTGGTTATTCAAAGAGAGGGCT	CTATCCTCAATCTACTGGTTATTCAAAGAGAGGGCT
M2 L nucl.	GAAGGTCTACGGCAAAAGGATGGAGTACCTCAATCTACTGGTTATTCAAAGAGAGGGCT	GAAGGTCTACGGCAAAAGGATGGAGTACCTCAATCTACTGGTTATTCAAAGAGAGGGCT
M4 L nucl.	.....	.....
	2101	2160
GenBank L nucl.	AAAATCAGAACACTGCTGTCAGTCTGGCACAAAGGTGATAATCAAGTTATTGCACA	AAAATCAGAACACTGCTGTCAGTCTGGCACAAAGGTGATAATCAAGTTATTGCACA
HR L nucl.	AAAATCAGAACACTGCTGTCAGTCTGGCACAAAGGTGATAATCAAGTTATTGCACA	AAAATCAGAACACTGCTGTCAGTCTGGCACAAAGGTGATAATCAAGTTATTGCACA
M2 L nucl.	.....	.....
M4 L nucl.	AAAATCAGAACACTGCTGTCAGTCTGGCACAAAGGTGATAATCAAGTTATTGCACA	AAAATCAGAACACTGCTGTCAGTCTGGCACAAAGGTGATAATCAAGTTATTGCACA
	2161	2220
GenBank L nucl.	CAGTATAAAACGAAGAAATCGAGAACGTTGAGAATTACAGGGTGCTCTCAATCAAATG	CAGTATAAAACGAAGAAATCGAGAACGTTGAGAATTACAGGGTGCTCTCAATCAAATG
HR L nucl.	CAGTATAAAACGAAGAAATCGAGAACGTTGAGAATTACAGGGTGCTCTCAATCAAATG	CAGTATAAAACGAAGAAATCGAGAACGTTGAGAATTACAGGGTGCTCTCAATCAAATG
M2 L nucl.	.....	.....
M4 L nucl.	CAGTATAAAACGAAGAAATCGAGAACGTTGAGAATTACAGGGTGCTCTCAATCAAATG	CAGTATAAAACGAAGAAATCGAGAACGTTGAGAATTACAGGGTGCTCTCAATCAAATG
	2221	2280
GenBank L nucl.	GTTTCTAATAATGAGAAAATTATGACTGCAATCAAATAGGGACAGGGAAAGTTAGGACTT	GTTTCTAATAATGAGAAAATTATGACTGCAATCAAATAGGGACAGGGAAAGTTAGGACTT
HR L nucl.	GTTTCTAATAATGAGAAAATTATGACTGCAATCAAATAGGGACAGGGAAAGTTAGGACTT	GTTTCTAATAATGAGAAAATTATGACTGCAATCAAATAGGGACAGGGAAAGTTAGGACTT
M2 L nucl.	.....	.....
M4 L nucl.	GTTTCTAATAATGAGAAAATTATGACTGCAATCAAATAGGGACAGGGAAAGTTAGGACTT	GTTTCTAATAATGAGAAAATTATGACTGCAATCAAATAGGGACAGGGAAAGTTAGGACTT
	2281	2340
GenBank L nucl.	TTGATAATGACCATGAGACTATGCAATCTGCAGATTACTGAAATTATGGAAAAATACCG	TTGATAATGACCATGAGACTATGCAATCTGCAGATTACTGAAATTATGGAAAAATACCG
HR L nucl.	TTGATAATGACCATGAGACTATGCAATCTGCAGATTACTGAAATTATGGAAAAATACCG	TTGATAATGACCATGAGACTATGCAATCTGCAGATTACTGAAATTATGGAAAAATACCG
M2 L nucl.	.....	.....
M4 L nucl.	TTGATAATGACCATGAGACTATGCAATCTGCAGATTACTGAAATTATGGAAAAATACCG	TTGATAATGACCATGAGACTATGCAATCTGCAGATTACTGAAATTATGGAAAAATACCG
	2341	2400
GenBank L nucl.	ATTTTCCGTGGAGTGATTAGAGGGTAGAGACCAAGAGATGGTCACGAGTGACTTGTGTC	ATTTTCCGTGGAGTGATTAGAGGGTAGAGACCAAGAGATGGTCACGAGTGACTTGTGTC
HR L nucl.	ATTTTCCGTGGAGTGATTAGAGGGTAGAGACCAAGAGATGGTCACGAGTGACTTGTGTC	ATTTTCCGTGGAGTGATTAGAGGGTAGAGACCAAGAGATGGTCACGAGTGACTTGTGTC
M2 L nucl.	.....	.....
M4 L nucl.	ATTTTCCGTGGAGTGATTAGAGGGTAGAGACCAAGAGATGGTCACGAGTGACTTGTGTC	ATTTTCCGTGGAGTGATTAGAGGGTAGAGACCAAGAGATGGTCACGAGTGACTTGTGTC
	2401	2460
GenBank L nucl.	ACCAATGACCAAATACCCACTTGTGCTAATATAATGAGCTCAGTTCCACAAATGCTCTC	ACCAATGACCAAATACCCACTTGTGCTAATATAATGAGCTCAGTTCCACAAATGCTCTC
HR L nucl.	ACCAATGACCAAATACCCACTTGTGCTAATATAATGAGCTCAGTTCCACAAATGCTCTC	ACCAATGACCAAATACCCACTTGTGCTAATATAATGAGCTCAGTTCCACAAATGCTCTC
M2 L nucl.	.....	.....
M4 L nucl.	ACCAATGACCAAATACCCACTTGTGCTAATATAATGAGCTCAGTTCCACAAATGCTCTC	ACCAATGACCAAATACCCACTTGTGCTAATATAATGAGCTCAGTTCCACAAATGCTCTC
	2461	2520
GenBank L nucl.	ACCGTAGCTCATTTGCTGAGAACCCAATCAATGCCATGATACAGTACAATTATTTGGG	ACCGTAGCTCATTTGCTGAGAACCCAATCAATGCCATGATACAGTACAATTATTTGGG
HR L nucl.	ACCGTAGCTCATTTGCTGAGAACCCAATCAATGCCATGATACAGTACAATTATTTGGG	ACCGTAGCTCATTTGCTGAGAACCCAATCAATGCCATGATACAGTACAATTATTTGGG
M2 L nucl.	.....	.....
M4 L nucl.	ACCGTAGCTCATTTGCTGAGAACCCAATCAATGCCATGATACAGTACAATTATTTGGG	ACCGTAGCTCATTTGCTGAGAACCCAATCAATGCCATGATACAGTACAATTATTTGGG
	2521	2580
GenBank L nucl.	ACATTGCTAGACTCTGTTGATGATGCATGATCCTGCTTGTCAATCTTGTATGAA	ACATTGCTAGACTCTGTTGATGATGCATGATCCTGCTTGTCAATCTTGTATGAA
HR L nucl.	ACATTGCTAGACTCTGTTGATGATGCATGATCCTGCTTGTCAATCTTGTATGAA	ACATTGCTAGACTCTGTTGATGATGCATGATCCTGCTTGTCAATCTTGTATGAA
M2 L nucl.	.....	.....
M4 L nucl.	ACATTGCTAGACTCTGTTGATGATGCATGATCCTGCTTGTCAATCTTGTATGAA	ACATTGCTAGACTCTGTTGATGATGCATGATCCTGCTTGTCAATCTTGTATGAA

FIGURE 22-5

DRAFT

	2581	2640
GenBank L nucl.	GTTCAAGATAAGATAACCGGGCTTGCACAGTTCTACTTTCAAATACGCCATGTTGTATTG	
HR L nucl.	GTTCAAGATAAGATAACCGGGCTTGCACAGTTCTACTTTCAAATACGCCATGTTGTATTG	
M2 L nucl.	.....
M4 L nucl.	GTTCAAGATAAGATAACCGGGCTTGCACAGTTCTACTTTCAAATACGCCATGTTGTATTG	
	2641	2700
GenBank L nucl.	GACCCCTTCCATTGGAGGTGTCGGGCATGTCTTGCCAGGTTTGATTAGAGCCTTC	
HR L nucl.	GACCCCTTCCATTGGAGGTGTCGGGCATGTCTTGCCAGGTTTGATTAGAGCCTTC	
M2 L nucl.	.....
M4 L nucl.	GACCCCTTCCATTGGAGGTGTCGGGCATGTCTTGCCAGGTTTGATTAGAGCCTTC	
	2701	2760
GenBank L nucl.	CCAGATCCCGTAACAGAAAAGTCTCTCATTCATCTGGAGATTCAATGTACATGCTCGAAGT	
HR L nucl.	CCAGATCCCGTAACAGAAAAGTCTCTCATTCATCTGGAGATTCAATGTACATGCTCGAAGT	
M2 L nucl.	.....
M4 L nucl.	CCAGATCCCGTAACAGAAAAGTCTCTCATTCATCTGGAGATTCAATGTACATGCTCGAAGT	
	2761	2820
GenBank L nucl.	GAGCATCTGAAGGAGATGAGTGCAGTATTGGAAACCCGAGATAGCCAAGTTCGAATA	
HR L nucl.	GAGCATCTGAAGGAGATGAGTGCAGTATTGGAAACCCGAGATAGCCAAGTTCGAATA	
M2 L nucl.	.....
M4 L nucl.	GAGCATCTGAAGGAGATGAGTGCAGTATTGGAAACCCGAGATAGCCAAGTTCGAATA	
	2821	2880
GenBank L nucl.	ACTCACATAGACAAGCTAGTAGAAGATCCAACCTCTGAACATCGCTATGGGAATGAGT	
HR L nucl.	ACTCACATAGACAAGCTAGTAGAAGATCCAACCTCTGAACATCGCTATGGGAATGAGT	
M2 L nucl.	.....
M4 L nucl.	ACTCACATAGACAAGCTAGTAGAAGATCCAACCTCTGAACATCGCTATGGGAATGAGT	
	2881	2940
GenBank L nucl.	CCAGCGAACCTGTTAAAGACTGAGGTTAAAAATGCTTAATCGAATCAAGACAAACCATC	
HR L nucl.	CCAGCGAACCTGTTAAAGACTGAGGTTAAAAATGCTTAATCGAATCAAGACAAACCATC	
M2 L nucl.	.....
M4 L nucl.	CCAGCGAACCTGTTAAAGACTGAGGTTAAAAATGCTTAATCGAATCAAGACAAACCATC	
	2941	3000
GenBank L nucl.	AGGAACCAGGTGATTAAGGATGCAACCATAATTGTATCATGAAGAGGATCGGCTCAGA	
HR L nucl.	AGGAACCAGGTGATTAAGGATGCAACCATAATTGTATCATGAAGAGGATCGGCTCAGA	
M2 L nucl.	.....
M4 L nucl.	AGGAACCAGGTGATTAAGGATGCAACCATAATTGTATCATGAAGAGGATCGGCTCAGA	
	3001	3060
GenBank L nucl.	AGTTTCTTATGGTCAATAATCCTCTGTCCTAGATTTAAGTGAATTCAAATCAGGC	
HR L nucl.	AGTTTCTTATGGTCAATAATCCTCTGTCCTAGATTTAAGTGAATTCAAATCAGGC	
M2 L nucl.	.....
M4 L nucl.	AGTTTCTTATGGTCAATAATCCTCTGTCCTAGATTTAAGTGAATTCAAATCAGGC	
	3061	3120
GenBank L nucl.	ACTTTTTGGGAGTCGCAGACGGGCTCATCAGTCTATTCAAATTCTCGTACTATTCGG	
HR L nucl.	ACTTTTTGGGAGTCGCAGACGGGCTCATCAGTCTATTCAAATTCTCGTACTATTCGG	
M2 L nucl.	.....
M4 L nucl.	ACTTTTTGGGAGTCGCAGACGGGCTCATCAGTCTATTCAAATTCTCGTACTATTCGG	

FIGURE 22-6

		3180
GenBank L nucl.	3121	
HR L nucl.	AACTCCTTAAGAAAAACTATCATAGGAATTGGATTTGATTGTGAGGAGTGAGGTA	
M2 L nucl.	AACTCCTTAAGAAAAACTATCATAGGAATTGGATTTGATTGTGAGGAGTGAGGTA	
M4 L nucl.	AACTCCTTAAGAAAAACTATCATAGGAATTGGATTTGATTGTGAGGAGTGAGGTA	
		3181
GenBank L nucl.	TCCTCTTGACACATTTAGGAAACTTCATTGAGAAGGGGATCATGAAAATGTGGACA	
HR L nucl.	TCCTCTTGACACATTTAGGAAACTTCATTGAGAAGGGGATCATGAAAATGTGGACA	
M2 L nucl.	TCCTCTTGACACATTTAGGAAACTTCATTGAGAAGGGGATCATGAAAATGTGGACA	
M4 L nucl.	TCCTCTTGACACATTTAGGAAACTTCATTGAGAAGGGGATCATGAAAATGTGGACA	
		3240
GenBank L nucl.	3241	
HR L nucl.	TGTTCAGCTACTCATGCTGACACATTAAGATAACAAATCCTGGGGCGTACAGTTATTGGG	
M2 L nucl.	TGTTCAGCTACTCATGCTGACACATTAAGATAACAAATCCTGGGGCGTACAGTTATTGGG	
M4 L nucl.	TGTTCAGCTACTCATGCTGACACATTAAGATAACAAATCCTGGGGCGTACAGTTATTGGG	
		3300
GenBank L nucl.	3301	
HR L nucl.	ACAACGTACCCCATCCATTAGAAATGTTGGTCCACAACATCGAAAAGAGACTCCTTGT	
M2 L nucl.	ACAACGTACCCCATCCATTAGAAATGTTGGTCCACAACATCGAAAAGAGACTCCTTGT	
M4 L nucl.	ACAACGTACCCCATCCATTAGAAATGTTGGTCCACAACATCGAAAAGAGACTCCTTGT	
		3360
GenBank L nucl.	3361	
HR L nucl.	GCACCATGTAACACATCAGGGTTCAATTATGTTCTGTGCATTGTCCAGACGGGATCCAT	
M2 L nucl.	GCACCATGTAACACATCAGGGTTCAATTATGTTCTGTGCATTGTCCAGACGGGATCCAT	
M4 L nucl.	GCACCATGTAACACATCAGGGTTCAATTATGTTCTGTGCATTGTCCAGACGGGATCCAT	
		3420
GenBank L nucl.	3421	
HR L nucl.	GACGTCTTAGTTCACGGGGACCATTGCCTGTTATCTAGGGCTAAACATCTGAATCT	
M2 L nucl.	GACGTCTTAGTTCACGGGGACCATTGCCTGTTATCTAGGGCTAAACATCTGAATCT	
M4 L nucl.	GACGTCTTAGTTCACGGGGACCATTGCCTGTTATCTAGGGCTAAACATCTGAATCT	
		3480
GenBank L nucl.	3481	
HR L nucl.	ACATCTATTTGCAGCCTTGGAAAGGAAAGCAAAGTCCCACTGATTAAAAGAGCTACA	
M2 L nucl.	ACATCTATTTGCAGCCTTGGAAAGGAAAGCAAAGTCCCACTGATTAAAAGAGCTACA	
M4 L nucl.	ACATCTATTTGCAGCCTTGGAAAGGAAAGCAAAGTCCCACTGATTAAAAGAGCTACA	
		3540
GenBank L nucl.	3541	
HR L nucl.	CGTCTTAGAGATGCTATCTCTGGTTGTTGAACCCGACTCTAAACTAGCAATGACTATA	
M2 L nucl.	CGTCTTAGAGATGCTATCTCTGGTTGTTGAACCCGACTCTAAACTAGCAATGACTATA	
M4 L nucl.	CGTCTTAGAGATGCTATCTCTGGTTGTTGAACCCGACTCTAAACTAGCAATGACTATA	
		3600
GenBank L nucl.	3601	
HR L nucl.	CTTTCTAACATCCACTCTTAACAGGCGAAGAATGGACCAAAGGCAGCATGGGTTCAAA	
M2 L nucl.	CTTTCTAACATCCACTCTTAACAGGCGAAGAATGGACCAAAGGCAGCATGGGTTCAAA	
M4 L nucl.	CTTTCTAACATCCACTCTTAACAGGCGAAGAATGGACCAAAGGCAGCATGGGTTCAAA	

FIGURE 22-7

	3661	3720
GenBank L nucl.	AGAACAGGGTCTGCCCTCATAGGTTTCGACATCTGGATGAGCCATGGTGGGTCGCA	
HR L nucl.	AGAACAGGGTCTGCCCTCATAGGTTTCGACATCTGGATGAGCCATGGTGGGTCGCA	
M2 L nucl.	.....
M4 L nucl.	AGAACAGGGTCTGCCCTCATAGGTTTCGACATCTGGATGAGCCATGGTGGGTCGCA	
	3721	3780
GenBank L nucl.	TCTCAGAGCACTGCAGCATTGACCAGGTTGATGGCAACTACAGACACCAGAGGGATCTG	
HR L nucl.	TCTCAGAGCACTGCAGCATTGACCAGGTTGATGGCAACTACAGACACCAGAGGGATCTG	
M2 L nucl.	.....
M4 L nucl.	TCTCAGAGCACTGCAGCATTGACCAGGTTGATGGCAACTACAGACACCAGAGGGATCTG	
	3781	3840
GenBank L nucl.	GGAGATCAGAATTTCGACTTTTATTCCAAGCAACGTTGCTATGCTAAATTACCA	
HR L nucl.	GGAGATCAGAATTTCGACTTTTATTCCAAGCAACGTTGCTATGCTCAGATTACCA	
M2 L nucl.	.....
M4 L nucl.	GGAGATCAGAATTTCGACTTTTATTCCAAGCAACGTTGCTATGCTCANATTACCA	
	3841	3900
GenBank L nucl.	ACTGTTGCAAGAGACGGATGGATCACCAGTTGATCACAGATCATTATCATATTGCCTGTAAG	
HR L nucl.	ACTGTTGCAAGAGACGGATGGATCACCAGTTGATCACAGATCATTATCATATTGCCTGTAAG	
M2 L nucl.	.....
M4 L nucl.	ACTGTTGCAAGAGACGGATGGATCACCAGTTGATCACAGATCATTATCATATTGCCTGTAAG	
	3901	3960
GenBank L nucl.	TCCTGTTGAGACCCATAGAAGAGATCACCTGGACTCAAGTATGGACTACACGCC	
HR L nucl.	TCCTGTTGAGACCCATAGAAGAGATCACCTGGACTCAAGTATGGACTACACGCC	
M2 L nucl.	.....
M4 L nucl.	TCCTGTTGAGACCCATAGAAGAGATCACCTGGACTCAAGTATGGACTACACGCC	
	3961	4020
GenBank L nucl.	GATGTATCCCATGTGCTGAAGACATGGAGGAATGGGAAGGTTCGTGGGACAAGAGATA	
HR L nucl.	GATGTATCCCATGTGCTGAAGACATGGAGGAATGGGAAGGTTCGTGGGACAAGAGATA	
M2 L nucl.	.....
M4 L nucl.	GATGTATCCCATGTGCTGAAGACATGGAGGAATGGGAAGGTTCGTGGGACAAGAGATA	
	4021	4080
GenBank L nucl.	AAACAGATCTATCCTT TAGAAGGAATTGGAAGAATTAGCACCTGCTGAGCAATCCTAT	
HR L nucl.	AAACAGATCTATCCTT TAGAAGGAATTGGAAGAATTAGCACCTGCTGAGCAATCCTAT	
M2 L nucl.	.....
M4 L nucl.	AAACAGATCTATCCTT TAGAAGGAATTGGAAGAATTAGCACCTGCTGAGCAATCCTAT	
	4081	4140
GenBank L nucl.	CAAGTCGGCAGATGTATAGGTTCTATATGGAGACTTGGCGTATAGAAAATCTACTCAT	
HR L nucl.	CAAGTCGGCAGATGTATAGGTTCTATATGGAGACTTGGCGTATAGAAAATCTACTCAT	
M2 L nucl.	.....
M4 L nucl.	CAAGTCGGCAGATGTATAGGTTCTATATGGAGACTTGGCGTATAGAAAATCTACTCAT	
	4141	4200
GenBank L nucl.	GCCGAGGACAGTTCTCTATTCCCTCATCTATACAAGGTCGTATTAGAGGTCGAGGTTTC	
HR L nucl.	GCCGAGGACAGTTCTCTATTCCCTCATCTATACAAGGTCGTATTAGAGGTCGAGGTTTC	
M2 L nucl.	.....
M4 L nucl.	GCCGAGGACAGTTCTCTATTCCCTCATCTATACAAGGTCGTATTAGAGGTCGAGGTTTC	

FIGURE 22-8

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	4201	
GenBank L nucl.	TTAAAAGGGTTGCTAGACGGATTAATGAGAGCAAGTTGCTGCCAAGTAATAACACCGGAGA	4260
HR L nucl.	TTAAAAGGGTTGCTAGACGGATTAATGAGAGCAAGTTGCTGCCAAGTAATAACACCGGAGA	
M2 L nucl.	.....
M4 L nucl.	TTAAAAGGGTTGCTAGACGGATTAATGAGAGCAAGTTGCTGCCAAGTAATAACACCGGAGA	
	4261	4320
GenBank L nucl.	AGTCTGGCTCATTGAAGAGGCCGGCCAACGCAGTGTACGGAGGTTGATTACTTGATT	
HR L nucl.	AGTCTGGCTCATTGAAGAGGCCGGCCAACGCAGTGTACGGAGGTTGATTACTTGATT	
M2 L nucl.	.....
M4 L nucl.	AGTCTGGCTCATTGAAGAGGCCGGCCAACGCAGTGTACGGAGGTTGATTACTTGATT	
	4321	4380
GenBank L nucl.	GATAAATTGAGTGTATCACCTCCATTCTTCTTACTAGATCAGGACCTATTAGAGAC	
HR L nucl.	GATAAATTGAGTGTATCACCTCCATTCTTCTTACTAGATCAGGACCTATTAGAGAC	
M2 L nucl.	.....
M4 L nucl.	GATAAATTGAGTGTATCACCTCCATTCTTCTTACTAGATCAGGACCTATTAGAGAC	
	4381	4440
GenBank L nucl.	GAATTAGAAACGATTCCCCACAAGATCCAACCTCCTATCCGACAAGCAACCGTGATATG	
HR L nucl.	GAATTAGAAACGATTCCCCACAAGATCCAACCTCCTATCCGACAAGCAACCGTGATATG	
M2 L nucl.	.....
M4 L nucl.	GAATTAGAAACGATTCCCCACAAGATCCAACCTCCTATCCGACAAGCAACCGTGATATG	
	4441	4500
GenBank L nucl.	GGGGTGATTGTCAAGAAATTACTTCAAATACCAATGCCGTCTAATTGAAAAGGGAAAATAC	
HR L nucl.	GGGGTGATTGTCAAGAAATTACTTCAAATACCAATGCCGTCTAATTGAAAAGGGAAAATAC	
M2 L nucl.	.....
M4 L nucl.	GGGGTGATTGTCAAGAAATTACTTCAAATACCAATGCCGTCTAATTGAAAAGGGAAAATAC	
	4501	4560
GenBank L nucl.	AGATCACATTATTTCACAATTATGGTTATTCTCAGATGTCTTATCCATAGACTCATTGGA	
HR L nucl.	AGATCACATTATTTCACAATTATGGTTATTCTCAGATGTCTTATCCATAGACTCATTGGA	
M2 L nucl.	.....
M4 L nucl.	AGATCACATTATTTCACAATTATGGTTATTCTCAGATGTCTTATCCATAGACTCATTGGA	
	4561	4620
GenBank L nucl.	CCATTCTCTATTTCACCACCCCTCTTGCAAATCCTATACAAGCCATTTTATCTGGAAA	
HR L nucl.	CCATTCTCTATTTCACCACCCCTCTTGCAAATCCTATACAAGCCATTTTATCTGGAAA	
M2 L nucl.	.....
M4 L nucl.	CCATTCTCTATTTCACCACCCCTCTTGCAAATCCTATACAAGCCATTTTATCTGGAAA	
	4621	4680
GenBank L nucl.	GATAAGAACATGAGTTGAGAGAGCTGGCAAATCTTCTTCATTGCTAAGATCAGGAGAGGG	
HR L nucl.	GATAAGAACATGAGTTGAGAGAGCTGGCAAATCTTCTTCATTGCTAAGATCAGGAGAGGG	
M2 L nucl.	.....
M4 L nucl.	GATAAGAACATGAGTTGAGAGAGCTGGCAAATCTTCTTCATTGCTAAGATCAGGAGAGGG	
	4681	4740
GenBank L nucl.	TGGGAAGACATACATGTGAAATTCTTCACCAAGGACATATTATTGTGTCCAGAGGAAATC	
HR L nucl.	TGGGAAGACATACATGTGAAATTCTTCACCAAGGACATATTATTGTGTCCAGAGGAAATC	
M2 L nucl.	.....
M4 L nucl.	TGGGAAGACATACATGTGAAATTCTTCACCAAGGACATATTATTGTGTCCAGAGGAAATC	

FIGURE 22-9

	4741	4800
GenBank L nucl.	AGACATGCTTCAAGTCGGATTGCTAAGGATAATAAAAGACATGAGCTATCCCCCT	
HR L nucl.	AGACATGCTTCAAGTCGGATTGCTAAGGATAATAAAAGACATGAGCTATCCCCCT	
M2 L nucl.	.....
M4 L nucl.	AGACATGCTTCAAGTCGGATTGCTAAGGATAATAAAAGACATGAGCTATCCCCCT	
	4801	4860
GenBank L nucl.	TGGGGAAGGGATCCAGAGGGACAATTACAACAATCCCTGTTATTATACGACCACCCCT	
HR L nucl.	TGGGGAAGGGATCCAGAGGGACAATTACAACAATCCCTGTTATTATACGACCACCCCT	
M2 L nucl.	.....
M4 L nucl.	TGGGGAAGGGATCCAGAGGGACAATTACAACAATCCCTGTTATTATACGACCACCCCT	
	4861	4920
GenBank L nucl.	TACCCAAAGATGCTAGAGATGCCTCCAAGAATCCAAAATCCCCTGCTGTCCCGAATCAGG	
HR L nucl.	TACCCAAAGATGCTAGAGATGCCTCCAAGAATCCAAAATCCCCTGCTGTCCCGAATCAGG	
M2 L nucl.	.....
M4 L nucl.	TACCCAAAGATGCTAGAGATGCCTCCAAGAATCCAAAATCCCCTGCTGTCCCGAATCAGG	
	4921	4980
GenBank L nucl.	TTGGGCCATTACCAACTGGCGCTCATTATAAAATTGGAGTATATTACATGGAATGGGA	
HR L nucl.	TTGGGCCAGTTACCAACTGGCGCTCATTATAAAATTGGAGTATATTACATGGAATGGGA	
M2 L nucl.	.....
M4 L nucl.	TTGGGCCAGTTACCAACTGGCGCTCATTATAAAATTGGAGTATATTACATGGAATGGGA	
	4981	5040
GenBank L nucl.	ATCCATTACAGGGACTTCTTGAGTTGTGGAGACGGCTCCGGAGGGATGACTGCTGCATTA	
HR L nucl.	ATCCATTACAGGGACTTCTTGAGTTGTGGAGACGGCTCCGGAGGGATGACTGCTGCATTA	
M2 L nucl.	.....
M4 L nucl.	ATCCATTACAGGGACTTCTTGAGTTGTGGAGACGGCTCCGGAGGGATGACTGCTGCATTA	
	5041	5100
GenBank L nucl.	CTACGAGAAAATGTGCATAGCAGAGGAATATTCAATAGTCTGTTAGAATTATCAGGGTCA	
HR L nucl.	CTACGAGAAAATGTGCATAGCAGAGGAATATTCAATAGTCTGTTAGAATTATCAGGGTCA	
M2 L nucl.	.....
M4 L nucl.	CTACGAGAAAATGTGCATAGCAGAGGAATATTCAATAGTCTGTTAGAATTATCAGGGTCA	
	5101	5160
GenBank L nucl.	GTCATGCGAGGCCCTCTTGAGCCCCCAGTGCCTAGAAACTTTAGGAGGAGATAAA	
HR L nucl.	GTCATGCGAGGCCCTCTTGAGCCCCCAGTGCCTAGAAACTTTAGGAGGAGATAAA	
M2 L nucl.	.....
M4 L nucl.	GTCATGCGAGGCCCTCTTGAGCCCCCAGTGCCTAGAAACTTTAGGAGGAGATAAA	
	5161	5220
GenBank L nucl.	TCGAGATGTAAATGGTAAACATGTTGGAAATATCCATCTGACTTATGTGACCCAAGG	
HR L nucl.	TCGAGATGTAAATGGTAAACATGTTGGAAATATCCATCTGACTTATGTGACCCAAGG	
M2 L nucl.	.....
M4 L nucl.	TCGAGATGTAAATGGTAAACATGTTGGAAATATCCATCTGACTTATGTGACCCAAGG	
	5221	5280
GenBank L nucl.	ACTTGGGACTATTCCTCCGACTCAAAGCAGGCTTGGGCTTCAAATTGATTAATTGTA	
HR L nucl.	ACTTGGGACTATTCCTCCGACTCAAAGCAGGCTTGGGCTTCAAATTGATTAATTGTA	
M2 L nucl.	.....
M4 L nucl.	ACTTGGGACTATTCCTCCGACTCAAAGCAGGCTTGGGCTTCAAATTGATTAATTGTA	

FIGURE 22-10

	5281	5340
GenBank L nucl.	ATGGATATGGAAGTCGGGATTCTTCACTAGCCTGAAAATTGAGACGAATGTTAGAAAT	
HR L nucl.	ATGGATATGGAAGTCGGGATTCTTCACTAGCCTGAAAATTGAGACGAATGTTAGAAAT	
M2 L nucl.	ATGGATATGGAAGTCGGGATTCTTCACTAGCCTGAAAATTGAGACGAATGTTAGAAAT	
M4 L nucl.	ATGGATATGGAAGTCGGGATTCTTCACTAGCCTGAAAATTGAGACGAATGTTAGAAAT	
	5341	5400
GenBank L nucl.	TATGTGCACCGGATTTGGATGAGCAAGGAGTTTAATCTACAAGACTTATGGAACATAT	
HR L nucl.	TATGTGCACCGGATTTGGATGAGCAAGGAGTTTAATCTACAAGACTTATGGAACATAT	
M2 L nucl.	.....
M4 L nucl.	TATGTGCACCGGATTTGGATGAGCAAGGAGTTTAATCTACAAGACTTATGGAACATAT	
	5401	5460
GenBank L nucl.	ATTTGTGAGAGCGAAAAGAATGCAGTAACAATCCTGGTCCCAGTTCAAGACGGTCGAC	
HR L nucl.	ATTTGTGAGAGCGAAAAGAATGCAGTAACAATCCTGGTCCCAGTTCAAGACGGTCGAC	
M2 L nucl.	.....
M4 L nucl.	ATTTGTGAGAGCGAAAAGAATGCAGTAACAATCCTGGTCCCAGTTCAAGACGGTCGAC	
	5461	5520
GenBank L nucl.	TTAGTTCAAACAGAATTAGTTAGTTCTAAACGTCTGAAGTATATGGTATGTTAAAGGT	
HR L nucl.	TTAGTTCAAACAGAATTAGTTAGTTCTAAACGTCTGAAGTATATGGTATGTTAAAGGT	
M2 L nucl.	.....
M4 L nucl.	TTAGTTCAAACAGAATTAGTTAGTTCTAAACGTCTGAAGTATATGGTATGTTAAAGGT	
	5521	5580
GenBank L nucl.	TTGAAGAAATTATCGATGAACCCAATCCGATTGGTCTTCCATCAATGAATCCTGGAAA	
HR L nucl.	TTGAAGAAATTATCGATGAACCCAATCCGATTGGTCTTCCATCAATGAATCCTGGAAA	
M2 L nucl.	.....
M4 L nucl.	TTGAAGAAATTATCGATGAACCCAATCCGATTGGTCTTCCATCAATGAATCCTGGAAA	
	5581	5640
GenBank L nucl.	AACCTGTACGCATTCCAGTCATCAGAACAGGAATTGCCAGAGCAAAGAAGGTTAGTACA	
HR L nucl.	AACCTGTACGCATTCCAGTCATCAGAACAGGAATTGCCAGAGCAAAGAAGGTTAGTACA	
M2 L nucl.	.....
M4 L nucl.	AACCTGTACGCATTCCAGTCATCAGAACAGGAATTGCCAGAGCAAAGAAGGTTAGTACA	
	5641	5700
GenBank L nucl.	TACTTACCTTGACAGGTATCCCTCCCAATTCAATTCTGATCCTTTGTAAACATTGAG	
HR L nucl.	TACTTACCTTGACAGGTATCCCTCCCAATTCAATTCTGATCCTTTGTAAACATTGAG	
M2 L nucl.	.....
M4 L nucl.	TACTTACCTTGACAGGTATCCCTCCCAATTCAATTCTGATCCTTTGTAAACATTGAG	
	5701	5760
GenBank L nucl.	ACTATGCTACAAATATCGGAGTACCCACGGGTGTCTCATGCGGCTGCCTAAAATCA	
HR L nucl.	ACTATGCTACAAATATCGGAGTACCCACGGGTGTCTCATGCGGCTGCCTAAAATCA	
M2 L nucl.	.....
M4 L nucl.	ACTATGCTACAAATATCGGAGTACCCACGGGTGTCTCATGCGGCTGCCTAAAATCA	
	5761	5820
GenBank L nucl.	TCTGATAGACCTGCAGATTATTGACCATTAGCCTTTTATATGGCGATTATATCGTAT	
HR L nucl.	TCTGATAGACCTGCAGATTATTGACCATTAGCCTTTTATATGGCGATTATATCGTAT	
M2 L nucl.	.....
M4 L nucl.	TCTGATAGACCTGCAGATTATTGACCATTAGCCTTTTATATGGCGATTATATCGTAT	

FIGURE 22-11

Sanger sequencing

	5821	5880
GenBank L nucl.	TATAACATCAATCATATCAGAGTAGGACCGATACTCCGAACCCCCCATCAGATGGAATT	
HR L nucl.	TATAACATCAATCATATCAGAGTAGGACCGATACTCCGAACCCCCCATCAGATGGAATT	
M2 L nucl.	.....
M4 L nucl.	TATAACATCAATCATATCAGAGTAGGACCGATACTCCGAACCCCCCATCAGATGGAATT	
	5881	5940
GenBank L nucl.	GCACAAAATGTGGGATCGCTATAACTGGTATAAGCTTTGGCTGAGTTGATGGAGAAA	
HR L nucl.	GCACAAAATGTGGGATCGCTATAACTGGTATAAGCTTTGGCTGAGTTGATGGAGAAA	
M2 L nucl.	.....
M4 L nucl.	GCACAAAATGTGGGATCGCTATAACTGGTATAAGCTTTGGCTGAGTTGATGGAGAAA	
	5941	6000
GenBank L nucl.	GACATTCCACTATATCAACAGTGTTCAGCAGTTATCCAGCAATCATTCCGATTAGGTGG	
HR L nucl.	GACATTCCACTATATCAACAGTGTTCAGCAGTTATCCAGCAATCATTCCGATTAGGTGG	
M2 L nucl.	.....
M4 L nucl.	GACATTCCACTATATCAACAGTGTTCAGCAGTTATCCAGCAATCATTCCGATTAGGTGG	
	6001	6060
GenBank L nucl.	GAGGCTGTTTCAGTAAAAGGAGGATACAAGCAGAAGTGGAGTACTAGAGGTGATGGGCTC	
HR L nucl.	GAGGCTGTTTCAGTAAAAGGAGGATACAAGCAGAAGTGGAGTACTAGAGGTGATGGGCTC	
M2 L nucl.	.....
M4 L nucl.	GAGGCTGTTTCAGTAAAAGGAGGATACAAGCAGAAGTGGAGTACTAGAGGTGATGGGCTC	
	6061	6120
GenBank L nucl.	CCAAAAGATACCCGAACTTCAGACTCCTGGCCCCAATCGGAACCTGGATCAGATCTCTG	
HR L nucl.	CCAAAAGATACCCGAATTTCAGACTCCTGGCCCCAATCGGAACCTGGATCAGATCTCTG	
M2 L nucl.	.....
M4 L nucl.	CCAAAAGATACCCGAATTTCAGACTCCTGGCCCCAATCGGAACCTGGATCAGATCTCTG	
	6121	6180
GenBank L nucl.	GAATTGGTCCGAAACCAAGTCGTCTAAATCCATTCAATGAGATCTTGTCAATCAGCTA	
HR L nucl.	GAATTGGTCCGAAACCAAGTCGTCTAAATCCATTCAATGAGATCTTGTCAATCAGCTA	
M2 L nucl.	.....
M4 L nucl.	GAATTGGTCCGAAACCAAGTCGTCTAAATCCATTCAATGAGATCTTGTCAATCAGCTA	
	6181	6240
GenBank L nucl.	TGTCGTACAGTGGATAATCATTGAAATGGTCAAATTGCGAACAAACACAGGAATGATT	
HR L nucl.	TGTCGTACAGTGGATAATCATTGAAATGGTCAAATTGCGAAAAAAACACAGGAATGATT	
M2 L nucl.	.....
M4 L nucl.	TGTCGTACAGTGGATAATCATTGAAATGGTCAAATTGCGAAAAAAACACAGGAATGATT	
	6241	6300
GenBank L nucl.	GAATGGATCAATAGACGAATTCAAAGAAGACCGGTCTATACTGATGTTGAAGAGTGAC	
HR L nucl.	GAATGGATCAATAGACGAATTCAAAGAAGACCGGTCTATACTGATGTTGAAGAGTGAC	
M2 L nucl.	.....
M4 L nucl.	GAATGGATCAATAGACGAATTCAAAGAAGACCGGTCTATACTGATGTTGAAGAGTGAC	

FIGURE 22-12

	6301	
GenBank L nucl.	CTACAGAGGAAAACCTTGAGAGATTAA.....	
HR L nucl.	CTACATGAGGAAAACCTTGAGAGATTAAAAAATCATGAGGAGACTCCAAACTTAAGT	
M2 L nucl.	.....
M4 L nucl.	CTACATGAGGAAAACCTTGAGAGATTAA.....	
	6360	
	6361	
GenBank L nucl.	.....
HR L nucl.	ATGAAAAAAACTTTGATCCTTAAGACCCTTGTG	
M2 L nucl.	.....
M4 L nucl.	.....
	6395	

FIGURE 22-13

P E C P I N T I N G

		1	60
GenBank L	a.a.	MEVHDFETDEFNDFNEddyATREFLNPDermtylnhadynlnsplisddidnlirkfnsl	
HR L	a.a.	.....
M4 L	a.a.	MEVHDFETDEFNDFNEddyATREFLNPDermtylnhadynlnsplisddidnlirkfnsl	
		61	120
GenBank L	a.a.	PIPSMWDSKNWDGVLEMLTSCQANPISTSQMHKWMGSWLMSDNHDA\$QGYSFLHEVDKEA	
HR L	a.a.	.....
M4 L	a.a.	PIPSMWDSKNWDGVLEMLTSCQANPISTSQMHKWMGSWLMSDNHDA\$QGYSFLHEVDKEA	
		121	180
GenBank L	a.a.	EITFDVVETFIRGWGNKPIEYIKKERWTDSFKILAYLCQKFLDLHKLTILNAVSEVELL	
HR L	a.a.	.....
M4 L	a.a.	EITFDVVETFIRGWGNKPIEYIKKERWTDSFKILAYLCQKFLDLHKLTILNAVSEVELL	
		181	240
GenBank L	a.a.	NLARTFKGKVRRSSHGTNICR[RVPSLGPTFISEGWAYFKKLDILMDRNFLLMVKDVIIG	
HR L	a.a.	.....
M4 L	a.a.	NLARTFKGKVRRSSHGTNICR[RVPSLGPTFISEGWAYFKKLDILMDRNFLLMVKDVIIG	
		241	300
GenBank L	a.a.	RMQTVLMSMVCRIDNLFSEQDIFSLLNIYRIGDKIVERQGNFSYDLIKMVEPICNL[KLMKL	
HR L	a.a.	.....
M4 L	a.a.	RMQTVLMSMVCRIDNLFSEQDIFSLLNIYRIGDKIVERQGNFSYDLIKMVEPICNL[KLMKL	
		301	360
GenBank L	a.a.	ARESRPLVPQFPFHENHIKTSVDEGAKIDRGIRFLHDQIMSVKTVDLTLVIYGSFRHWGH	
HR L	a.a.	.....	HWGH
M4 L	a.a.	ARESRPLVPQFPFHENHIKTSVDEGAKIDRGIRFLHDQIMSVKTVDLTLVIYGSFRHWGH	
		361	420
GenBank L	a.a.	PFIDYY[GLEKLHSQVTMKKDIDVSYAKALASDLARIIVLFQQFNDHKKWFVNGLP HDH	
HR L	a.a.	PFIDYYAGLEKLHSQVT[XKKDIDVSYAKALASDLARIIVLFQQFNDH[XKFVNGLP HDH	
M4_L.pro		PFIDYYAGLEKLHSQVTMKKDIDVSYAKALASDLARIIVLFQQFNDHKKWFVNGLP HDH	
		421	480
GenBank L	a.a.	PFKSHVKENTWP TAAQVQDFGDKWHELPLIKCFEIPDLLDP SIIYSDKSHSMNRSEVLKH	
HR L	a.a.	PFKSHVKENTWP TAAQVQDFGDKWHELPLIKCFEIPDLLDP SIIYSDKSHSMNRSEVLKH	
M4 L	a.a.	PFKSHVKENTWP TAAQVQDFGDKWHELPLIKCFEIPDLLDP SIIYSDKSHSMNRSEVLKH	
		481	540
GenBank L	a.a.	VRMNPNTPIPSKKVLQTMLDTKATNWKEFLKEIDEKGLDDDLIIGLKGKERELLAGRF	
HR L	a.a.	VRMNPNTPIPSKKVLQTMLDTKATNWKEFLKEIDEKGLDDDLIIGLKGKERELLAGRF	
M4 L	a.a.	VRMNPNTPIPSKKVLQTMLDTKATNWKEFLKEIDEKGLDDDLIIGLKGKERELLAGRF	
		541	600
GenBank L	a.a.	FSLMSWKLREYFVITEYLIKTHFVPMFKGLTMADDL TAVIKKMLDSSSGQGLKSYE AICI	
HR L	a.a.	FSLMSWKLREYFVITEYLIKTHFVPMFKGLTMADDL TAVIKKMLDSSSGQGLKSYE AICI	
M4 L	a.a.	FSLMSWKLREYFVITEYLIKTHFVPMFKGLTMADDL TAVIKKMLDSSSGQGLKSYE AICI	

FIGURE 23-1

	601	660
GenBank L a.a.	ANHIDYEKWNHHQRKLSNGPVFRVMGQFLGYP SLIERTHEFFEKSLIYYNGRPDLMRVHN	
HR L a.a.	ANHIDYEKWNHHQRKLSNGPVFRVMGQFLGYP SLIERTHEFFEKSLIYYNGRPDLMRVHN	
M4 L a.a.	ANHIDYEKWNHHQRKLSNGPVFRVMGQFLGYP SLIERTHEFFEKSLIYYNGRPDLMRVHN	
	661	720
GenBank L a.a.	NTLINSTSQRVCWQQEGGLEGLRQKGWSILNLLVIQREAKIRNTAVKVLAQGDNQVICT	
HR L a.a.	NTLINSTSQRVCWQQEGGLEGLRQKGWSILNLLVIQREAKIRNTAVKVLAQGDNQVICT	
M4 L a.a.	NTLINSTSQRVCWQQEGGLEGLRQKGWSILNLLVIQREAKIRNTAVKVLAQGDNQVICT	
	721	780
GenBank L a.a.	QYKTKSRNVVELQGALNQMVSNNNEKIMTAIKIGTGKLG LIINDDETMQSADYLNYGKIP	
HR L a.a.	QYKTKSRNVVELQGALNQMVSNNNEKIMTAIKIGTGKLG LIINDDETMQSADYLNYGKIP	
M4 L a.a.	QYKTKSRNVVELQGALNQMVSNNNEKIMTAIKIGTGKLG LIINDDETMQSADYLNYGKIP	
	781	840
GenBank L a.a.	I FRGVIRGLETKRWSRVCVTDQIPTCANIMSSVSTNALTVAHFAENPINAMIQYNYFG	
HR L a.a.	I FRGVIRGLETKRWSRVCVTDQIPTCANIMSSVSTNALTVAHFAENPINAMIQYNYFG	
M4 L a.a.	I FRGVIRGLETKRWSRVCVTDQIPTCANIMSSVSTNALTVAHFAENPINAMIQYNYFG	
	841	900
GenBank L a.a.	TFARLLMMHDPA LRQSLYEVQDKIPGLHSSTFKYAMLYLDPSIGGVSGMSLSRFLIRAF	
HR L a.a.	TFARLLMMHDPA LRQSLYEVQDKIPGLHSSTFKYAMLYLDPSIGGVSGMSLSRFLIRAF	
M4 L a.a.	TFARLLMMHDPA LRQSLYEVQDKIPGLHSSTFKYAMLYLDPSIGGVSGMSLSRFLIRAF	
	901	960
GenBank L a.a.	PDPVTELSFWRFIHVHARSEHLKEMSAVFGNPEIAKFRITHIDKLVEDPTSLNIAMGMS	
HR L a.a.	PDPVTELSFWRFIHVHARSEHLKEMSAVFGNPEIAKFRITHIDKLVEDPTSLNIAMGMS	
M4 L a.a.	PDPVTELSFWRFIHVHARSEHLKEMSAVFGNPEIAKFRITHIDKLVEDPTSLNIAMGMS	
	961	1020
GenBank L a.a.	PANLLKTEVKKCLIESRQ TIRNQVIKDATIYLYHEEDRLRSFLWSINPLFPRFLSEFKSG	
HR L a.a.	PANLLKTEVKKCLIESRQ TIRNQVIKDATIYLYHEEDRLRSFLWSINPLFPRFLSEFKSG	
M4 L a.a.	PANLLKTEVKKCLIESRQ TIRNQVIKDATIYLYHEEDRLRSFLWSINPLFPRFLSEFKSG	
	1021	1080
GenBank L a.a.	TFLGVADGLISLFQNSRTIRNSFKKKYHRELDLIVRSEVSSLTHLGKLHRRGSCKMWT	
HR L a.a.	TFLGVADGLISLFQNSRTIRNSFKKKYHRELDLIVRSEVSSLTHLGKLHRRGSCKMWT	
M4 L a.a.	TFLGVADGLISLFQNSRTIRNSFKKKYHRELDLIVRSEVSSLTHLGKLHRRGSCKMWT	
	1081	1140
GenBank L a.a.	CSATHADTLRYKSWGR TVIGTTVPHPLEMLGPQHRKETPCAPCNTSGFNYVS VHC PDGIH	
HR L a.a.	CSATHADTLRYKSWGR TVIGTTVPHPLEMLGPQHRKETPCAPCNTSGFNYVS VHC PDGIH	
M4 L a.a.	CSATHADTLRYKSWGR TVIGTTVPHPLEMLGPQHRKETPCAPCNTSGFNYVS VHC PDGIH	
	1141	1200
GenBank L a.a.	DVFSSRGPLPAYLGSKTSESTSILQPWERESKVPLIKRATRLRDAISWFVEPDSKLAMTI	
HR L a.a.	DVFSSRGPLPAYLGSKTSESTSILQPWERESKVPLIKRATRLRDAISWFVEPDSKLAMTI	
M4 L a.a.	DVFSSRGPLPAYLGSKTSESTSILQPWERESKVPLIKRATRLRDAISWFVEPDSKLAMTI	

FIGURE 23-2

	1201	1260
GenBank L a.a.	LSNIHSLTGEETKQRQHGFKRTGSALHRFSTSRSMSHGGFASQSTAALTRLMATTDTMRDL	
HR L a.a.	LSNIHSLTGEETKQRQHGFKRTGSALHRFSTSRSMSHGGFASQSTAALTRLMATTDTMRDL	
M4 L a.a.	LSNIHSLTGEETKQRQHGFKRTGSALHRFSTSRSMSHGGFASQSTAALTRLMATTDTMRDL	
	1261	1320
GenBank L a.a.	GDQNFDLFLQATLLYAQITTVARDGWITSCTDHYHIACKSCLRPIEEITLDSSMDYTPP	
HR L a.a.	GDQNFDLFLQATLLYAQITTVARDGWITSCTDHYHIACKSCLRPIEEITLDSSMDYTPP	
M4 L a.a.	GDQNFDLFLXATLLYA X ITTVARDGWITSCTDHYHIACKSCLRPIEEITLDSSMDYTPP	
	1321	1380
GenBank L a.a.	DVSHVLKTWRNGEGSWGQEI K QIYPLEGNWKNLAPAEQS Y QVGR C IGFLYGDLAYRKSTH	
HR L a.a.	DVSHVLKTWRNGEGSWGQEI K QIYPLEGNWKNLAPAEQS Y QVGR C IGFLYGDLAYRKSTH	
M4 L a.a.	DVSHVLKTWRNGEGSWGQEI K QIYPLEGNWKNLAPAEQS Y QVGR C IGFLYGDLAYRKSTH	
	1381	1440
GenBank L a.a.	AEDSSLFPLSIQGRIRGRGFLKG L DGLRASCCQVIHRRSLAHLKRPANAVYGG I LYLI	
HR L a.a.	AEDSSLFPLSIQGRIRGRGFLKG L DGLRASCCQVIHRRSLAHLKRPANAVYGG I LYLI	
M4 L a.a.	AEDSSLFPLSIQGRIRGRGFLKG L DGLRASCCQVIHRRSLAHLKRPANAVYGG I LYLI	
	1441	1500
GenBank L a.a.	DKLSVSPPFLSLTRSGPIRDELETIPH K IPTSYPTS N RDMGVIVRN Y FKYQCRLIEKGKY	
HR L a.a.	DKLSVSPPFLSLTRSGPIRDELETIPH K IPTSYPTS N RDMGVIVRN Y FKYQCRLIEKGKY	
M4 L a.a.	DKLSVSPPFLSLTRSGPIRDELETIPH K IPTSYPTS N RDMGVIVRN Y FKYQCRLIEKGKY	
	1501	1560
GenBank L a.a.	RSHYSQLWLFSDVLSIDFIGPFSISTTLLQILYKPFLSGKDKNELRELANLSSLLRGEG	
HR L a.a.	RSHYSQLWLFSDVLSIDFIGPFSISTTLLQILYKPFLSGKDKNELRELANLSSLLRGEG	
M4 L a.a.	RSHYSQLWLFSDVLSIDFIGPFSISTTLLQILYKPFLSGKDKNELRELANLSSLLRGEG	
	1561	1620
GenBank L a.a.	WEDIHVKKFTKDILLCPEEIRHACKFGIAKDN NN KDMSYPPWGRESRG T ITTTIPVYYTTTP	
HR L a.a.	WEDIHVKKFTKDILLCPEEIRHACKFGIAKDN NN KDMSYPPWGRESRG T ITTTIPVYYTTTP	
M4 L a.a.	WEDIHVKKFTKDILLCPEEIRHACKFGIAKDN NN KDMSYPPWGRESRG T ITTTIPVYYTTTP	
	1621	1680
GenBank L a.a.	YPKMLEMPPRIQNPLL S IRLGQLPTGAHYKIRSILHGMGIHYRDFLSCGDGSGG M TAAL	
HR L a.a.	YPKMLEMPPRIQNPLL S IRLGQLPTGAHYKIRSILHGMGIHYRDFLSCGDGSGG M TAAL	
M4 L a.a.	YPKMLEMPPRIQNPLL S IRLGQLPTGAHYKIRSILHGMGIHYRDFLSCGDGSGG M TAAL	
	1681	1740
GenBank L a.a.	LRENVHSRGIFNSLLELSGSVMRGASPEPPSA E TLGGDKSRCVNGETCWEYPSLCDPR	
HR L a.a.	LREN VHSRGIFNSLLELSGSVMRGASPEPPSAETLGGDKSRCVNGETCWEYPSLCDPR	
M4 L a.a.	LREN VHSRGIFNSLLELSGSVMRGASPEPPSAETLGGDKSRCVNGETCWEYPSLCDPR	
	1741	1800
GenBank L a.a.	TWDYFLRLKAGLGLQIDLIVMDMEVRDS S TS L KIETNVRNYVHRILDEQGV Y KTYG T Y	
HR L a.a.	TWDYFLRLKAGLGLQIDLIVMDMEVRDS S TS L KIETNVRNYVHRILDEQGV Y KTYG T Y	
M4 L a.a.	TWDYFLRLKAGLGLQIDLIVMDMEVRDS S TS L KIETNVRNYVHRILDEQGV Y KTYG T Y	
	1801	1860
GenBank L a.a.	ICESEKNAV T ILGPMFKTV D VQTEFSS S QTSEVYMVKGLKKLIDEPNPDWSSINESWK	
HR L a.a.	ICESEKNAV T ILGPMFKTV D VQTEFSS S QTSEVYMVKGLKKLIDEPNPDWSSINESWK	
M4 L a.a.	ICESEKNAV T ILGPMFKTV D VQTEFSS S QTSEVYMVKGLKKLIDEPNPDWSSINESWK	

FIGURE 23-3

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GenBank L a.a.	1861	1920
HR L a.a.	NLYAFQSSEQEFARAKVSTYFTLTGIPSQFIPDPFVNIEMLQIFGVPTGVSHAAALKS	
M4 L a.a.	NLYAFQSSEQEFARAKVSTYFTLTGIPSQFIPDPFVNIEMLQIFGVPTGVSHAAALKS	
		1980
GenBank L a.a.	SDRPADLLTISLFYMAIISYYNINHIRVGPIPPNPPSDGIAQNVGIAITGISFWLSLMEK	
HR L a.a.	SDRPADLLTISLFYMAIISYYNINHIRVGPIPPNPPSDGIAQNVGIAITGISFWLSLMEK	
M4 L a.a.	SDRPADLLTISLFYMAIISYYNINHIRVGPIPPNPPSDGIAQNVGIAITGISFWLSLMEK	
		1981
GenBank L a.a.	DIPLYQQCLAVIQQSFPIRWEAVSVKGGYKQKWSTRGDGLPKDTRISDSLAPIGNWIRSL	
HR L a.a.	DIPLYQQCLAVIQQSFPIRWEAVSVKGGYKQKWSTRGDGLPKDTRISDSLAPIGNWIRSL	
M4 L a.a.	DIPLYQQCLAVIQQSFPIRWEAVSVKGGYKQKWSTRGDGLPKDTRISDSLAPIGNWIRSL	
		2040
GenBank L a.a.	ELVRNQVRLNPNEILFNQLCRTVDNHLKWSNLRKNTGMIEWINRRISKEDRSILMLKSD	
HR L a.a.	ELVRNQVRLNPNEILFNQLCRTVDNHLKWSNLRKNTGMIEWINRRISKEDRSILMLKSD	
M4 L a.a.	ELVRNQVRLNPNEILFNQLCRTVDNHLKWSNLRKNTGMIEWINRRISKEDRSILMLKSD	
	2101 2110	
GenBank L a.a.	LHEENSWRD	
HR L a.a.	LHEENSWRD	
M4 L a.a.	LHEENSWRD	

FIGURE 23-4